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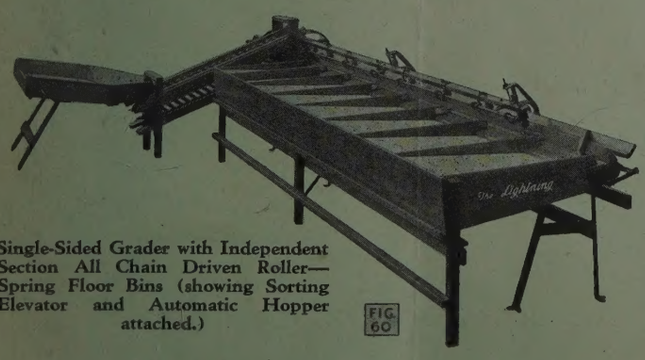

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FIG. 60

Good Fruit Deserves the BEST Grader

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Apple Publicity Campaign

Successful Educational Methods

Valuable Handwriting Competition

THE EDUCATIONAL publicity campaign recently conducted by the Australian Apple and Pear Council to increase the consumption of Apples and Pears in Australia has won general commendation.

The work was along the lines of educational propaganda as distinct from "advertising." The work among schools, kindergartens, baby health centres, mother clubs was appreciated, also Apple Week and Health Week demonstrations.

Handwriting Competition.

A handwriting competition was conducted throughout Australia. The words for writing were as follows:—

Apples after every meal!
Eat the lot, both flesh and peel.
"Nature's Toothbrush" they are styled,
Excellent for man and child.
Tone the nerves and cleanse the blood,
Best of medicine and food.

The following is a copy of the letter sent to the President of the Apple and Pear Council (Mr. J. B. Mills) by the Chairman of the Judges' Committee:

It gives me pleasure to report on the success of the handwriting competition which was recently conducted under the auspices of your Council.

You will notice that prizes are distributed in the several States as follows:—

Victoria (4 first prizes, 5 second prizes, 5 third prizes)—14 prizes.

South Australia (4 first prizes, 2 second prizes, 4 third prizes).—10 prizes.

Tasmania (1 first prize, 3 second prizes, 2 third prizes)—6 prizes.

New South Wales (1 first prize, 2 second prizes, 1 third prize)—4 prizes.

Western Australia (2 first prizes) —2 prizes.

Total—36 prizes.

The judges were Mrs. Clarence Weber, M.L.A., Messrs. K. Whately (Child Vocational Guidance Institute), E. T. Spackman (Secretary, Federal Institute of Secretaries), assisted by your Secretary, Mr. R. E. Boardman, with myself as Chairman.

Nothing else that I can think of could have done so much to rivet the attention of the right people on the virtues of the Apple, or pressed its claims so well.

It is safe to say that children of the ages specified in this competition are the greatest consumers of Apples, and they and their activities are the cynosure of close attention from both school and home.

Thus, in commanding the attention of the children, the Council secured at the same time the attention of both home and school authorities. Many of the entrants would re-write their specimen again and again, often enough to commit to memory the simple and catchy lines prescribed for them—and thus in their most impressionable years become intelligent champions of the Apple.

Some children actually did send specimens in duplicate, and most of the work submitted revealed skill, training and care of a high order. The wording of the text was happily chosen, giving an adequate test of penmanship in both capitals and small letters.

Entries totalling some 3,500 poured in from the four corners of the Commonwealth, from Cairns, from Hobart, from Sydney and even from Geraldton (W.A.). Entries from such out of the way places as "595 Mile Transcontinental Line" jostled entries from addresses in the heart of Melbourne and Sydney. The person would be dull indeed who did not feel as he studied these thousands of entries, a throb of wholesome pride in the people, the children, and the potentialities of this great country. Some of the work came from children whose only contact with the world of education is by correspondence, and their work was almost faultless.

I would like to add a word of appreciation of your publicity efforts. I perused newspaper clippings from scores of newspapers in the several States. The total number of entries was even greater than the figure given, as I am aware of headmasters having culled entries before sending in the selected ones.

The girls' work was neater than the boys'. The beautiful work done with the left hand astonished the judges, and the excellent entries from Tasmania, the Apple State, seemed to be particularly in keeping with the claims of those who promoted this competition. Apart altogether from any publicity value to the commodity in which your Council is interested, I would like to state as a professional teacher of handwriting that your effort was a constructive one and worthy of continuance in promoting the ideals of better handwriting.

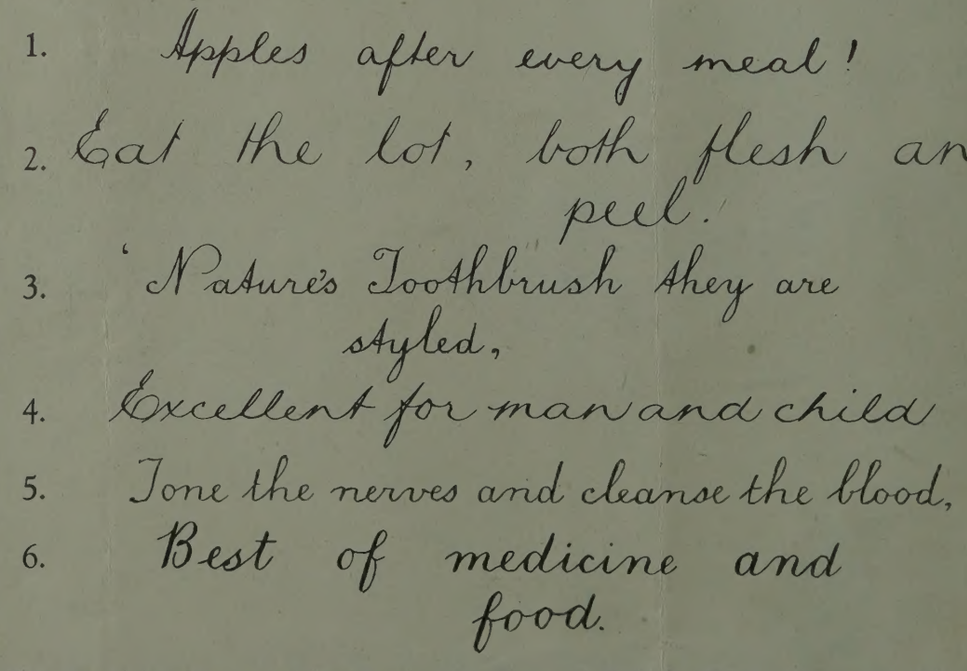
This report would be incomplete without a word of appreciation of the enthusiasm, helpfulness and courtesy of your Secretary, Mr. Boardman. It was pleasure to co-operate with him, and also with my fellow-judges and your Council in this matter.

Yours faithfully,

(Sgd.) F. L. EDMUNDS.

Hawthorn, Vic., 14/12/38.

Some Samples of Winning Entries in Handwriting Competition Slogans used.


1. Apples after every meal!
2. Eat the lot, both flesh and peel.
3. "Nature's Toothbrush they are styled,
4. Excellent for man and child
5. Tone the nerves and cleanse the blood,
6. Best of medicine and food.

The names of the writers are as follows in order as numbered: (1) Sheila M. Moffatt, under 17, girl, right hand; (2) Joan Edmunds, under 14, girl, right hand; (3) Gloria Anne Fisher, under 10, girl, right hand; (4) Kenneth Frank Shepherd, under 17, boy, right hand; (5) John Kenneth Anderson, under 14, boy, right hand; (6) Thomas Williams, under 10, boy, right hand.

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News of the Month

Apples and Pears.

PREPARATIONS ARE NOW in hand for operating the recently passed Acts dealing both with the export of Apples and Pears and the improvement of the local markets.

While the Apple and Pear Council will administer the 1939 export, it has been found necessary to constitute the Apple and Pear Board earlier than was generally anticipated.

State associations affiliated with the Apple and Pear Council and other such organisations as are approved by the Minister for Commerce, are now setting about the necessary procedure in the preparation of panels of names from which the Minister will select the first Board.

This will be all to the good as the new Board will thus more effectively take over from the Council and acquire valuable information for the exercise of its statutory powers.

But more important still is the fact that the Board, when constituted, will be in a position to operate at once with relation to local marketing.

EVENTS MOVED RAPIDLY towards the close of 1938. The Federal Government decided to introduce the measure which had been requested for several years past, namely, for the collection of a uniform sum for publicity.

The Act actually includes Publicity and Research. When, however, the executive of the Apple and Pear Council met at Sydney, at the end of December, emphasis was laid on the publicity aspect.

It is necessary for the Apple and Pear Board to be first constituted before funds can be collected as the Board will administer the funds.

During the past two years, committees have been operating in the several States in the handling of Apple and Pear publicity, thus laying the foundation for the permanent work which will now go on.

The experience thus gained over the past two seasons has been invaluable. The method has been discovered by which effective publicity can be conducted at the lowest possible cost.

In short, the method is that of bringing home to people in an educational manner, some of the simple health habits. The medical and dental professions, health authorities, and all interested in the building of a healthy nation are right behind the campaign. Right diet is the first fundamental of the national fitness campaign about which so much is heard in these days.

This is the background and the large canvas on which the Apple and Pear Board will paint its story. It is fundamentally sound. Thus, in stabilising the Apple and Pear industry the health of the people will be materially improved. It is a splendid combination, and the distinction is most plainly seen for educational publicity as distinct from what is more generally known as advertising.

All Fruits Benefit.

As we have pointed out on other occasions, the fruit industry as a whole will benefit. Nutrition committees all over the world have pointed out the need for more fruit and vegetables in the daily diet.

All sections of the fruit industry will now be in a position to publicise the findings of these Nutrition Committees.

It is not a matter of one fruit "advertising" against another; the objective is to instruct the public so that they get the fruit habit, or the fruit consciousness, or whatever other term may be used.

Improved Grading.

Responsibility rests on the industry in even a greater measure than ever to attend to the essentials of grading, packing and marketing. The goodwill of the public will be gained and retained only insofar as the fruit of the right quality is presented in an attractive manner.

Thus it is that grading committees have been meeting with the object of improving the grades in order to give the public full value for their money.

However, the plans are now in hand, and the machinery is being set in motion. The result should be the all-round improvement of the industry. This will be achieved by the goodwill and co-operation of all concerned.

A Happy New Year.

The Editor and staff of the "Fruit World and Market Grower" take this opportunity of wishing all readers a happy and prosperous New Year. We, together with our fellow citizens on this planet, are vitally concerned with all international happenings.

May the spirit of Christmas: "Peace on earth and goodwill to men," be the dominating thought and experience.

Nations are built up of individuals, and thus we, every one of us, can do his and her share in the ushering in of better conditions.

PERSONAL

Mr. L. S. Taylor, a member of the Tasmanian State Fruit Board, arrives in Melbourne on January 6 on his way back to Tasmania after an interesting visit to the old country, where he enquired into various phases of the fruit industry.

PERSONAL.

Mr. W. F. Walker, N.D.H., of Lalla, Northern Tasmania, arrived back in Australia in mid-December after 3½ years abroad. After visting U.S.A. and observing cultural conditions and packing methods there, he went to England, and after studying at the Royal Botanic Garden, Kew, and at the E. Malling Research Station, obtained the National Diploma of Horticulture.

Mr. Walker closely observed fruit marketing conditions in London. He states that while there has been a marked improvement in the pack, there is room for still further advancement in this respect. By scientific methods in the orchard the inherent quality of the fruit can be improved. Apples should be concentrated and packed in district packing houses to standardise grades.

Mr. A. Osborne, manager of the N.Z. Fruitgrowers' Federation Ltd., visited several of the Australian States on his journey back to N.Z. after visiting U.S.A., Canada and England. Mr. Osborne observed the many phases of the fruit industry in the countries visited, and obtained information which will be helpful in conducting the big enterprise into which the N.Z. Fruitgrowers' Federation has developed. Mr. Osborne took cognisance of the Apple publicity methods in U.S.A. and Australia, and expresses the opinion that the educational publicity methods adopted in Australia last season are best suited for continuity in impressing the rising generation. N.Z. also specialises in Apple publicity methods among school children.

NEWS IN BRIEF.

Indications are for a normal crop of Apples and a good crop of Pears in Tasmania. Prospects of heavy crops of both fruits have been affected by severe wind and rain in many districts.

The poll of Onion growers on the question of continuance or otherwise of the Onion Board resulted in a narrow margin for continuance. A 60 per cent. vote was required in favor of bringing about the dissolution of the Board.

Many Tasmanian growers are using Lupins for green manure in preference to Horse Beans, as the latter are prone to become affected by aphis.

Blackbirds and starlings are regarded as a serious pest in some Tasmanian districts, even some of the softer varieties of Apples being attacked by starlings.

Black Spot is feared in some of Tasmania owing to heavy rain. In addition, the windy conditions were against effective spraying.

Professor Shoemaker, Horticulturist at the University of Alberta, has developed an orchard in Edmonton which includes 300 varieties of Apple, Plum, and other fruit trees. His researches have opened the way for fruit growing on a commercial scale on the prairies.

There is great scope for research in combating insect and other pests that cause losses to the vegetable growers. Most vegetables are subject to attack, and very little appears to be known about some of the growers' enemies.

In the 1934-35 year there were 2,895,596 large fruit trees, bearing and non-bearing, in Victoria. In the 1937-38 year the number was 3,385,932, an increase of 490,336.

The crop of nuts in Victoria increased from 190,180 lbs. in 1936-37 to 263,528 lbs. in 1937-38. In the same period dried tree fruits decreased from 1,219,453 lbs. to 1,172,956 lbs.

From July, 1937, to June, 1938, South Australia imported from other States 337,882 bushels and packages of fruit, fruit trees and vegetables, 2,151 of them being fumigated or scalded. In addition, 1,106 were rejected. During the same period 65 trucks and 412,461 packages of fresh fruit were exported to other States, Victoria taking 347,594 of them.

Dr. Joan Hearman, a plant pathologist from Western Australia, has taken up duties at the Griffith Research Station of the C.S. & I.R.

The introduction of a wetting agent that will reduce the dipping time for Sultanas in the cold dip from three minutes to five seconds will revolutionise the cold dipping process. This is one of the achievements of the C.S. & I.R.

The Apple and Pear Tax Act was passed by the Federal Parliament last month. A tax of three-farthings per case is provided as a maximum, but the amount levied will probably be less. The fund, which will be used for publicity and research, is to be administered by the Apple and Pear Board.

During the recent gales, heavy losses were sustained by vegetable growers. Those with swamp Tea Tree windbreaks attached to their fences lost very little, and this form of protection is recommended in preference to growing hedges.

Although there will be no decrease in acreage, the Victorian Potato crop for 1938-39 will be much lighter than usual, the estimated yield being less than two tons per acre, but worms have done considerable damage in all districts.

OBITUARY.

Mr. Herb. Petty, Doncaster.

General regret will be felt at the passing of Mr. Herb. Petty, fruitgrower, of Doncaster, Vic., at the end of December, 1938. Though still a comparatively young man, the late Mr. Petty had not been well for some time past. He leaves a widow and young family. He was an esteemed citizen; of an inventive turn of mind he was associated with his brother Frank in the inventing of the well-known Petty plough.

As Spraying is a Necessity
—then use the World's Best—

NEPTUNE SPRAYS . . .

The better quality of NEPTUNE Sprays is always obvious by comparison with others. NEPTUNE Sprays conform to the highest standards, and they are consistently uniform in strength and quality. Successful orchardists recommend them. Try them yourself and prove that they're better!

Neptune White Spraying Oil (SUMMER SPRAY)

NEPTUNE PREPARED RED SPRAYING OIL ("A," "C," or Heavy Base)
NEPTUNE PALSOL (Prepared Pale Oil)
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ENGLISH BLUESTONE SNOW
GENUINE BLACK LEAF 40
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POWDERED SULPHUR
COPPER SPRAY
NEPTUNE SPRAY SPREADER

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A NEW YEAR RESOLUTION
Plant . .
GOODMAN'S FRUIT TREES

This 1939 resolution will bring you greater prosperity in the years to come. Goodman's Fruit Trees are the sure foundation of a fine orchard. Healthy, well-grown trees, true to label. Guaranteed pest free. ALL VARIETIES. Catalogue from:—

C. J. GOODMAN
Picnic Point Nurseries,
Bairnsdale, Victoria.

Spraying for Insect Pest and Disease Control

NEWS IN BRIEF.

Owing to excessive dryness, Spring frosts and other causes, the South Australian crop of Apples and Pears will be considerably lighter than that of last year. The estimate is for a crop of between 500,000 and 600,000 bushels of Apples and 250,000 for Pears.

Apricot crops in South Australia will be about 50 per cent. below last year's. Peaches, Plums and Nectarines will be slightly below last year's yield.

Prospects for citrus crops in South Australia are good, and the vine crops are, on present indications, likely to be about the same as last year's.

The New South Wales Banana Growers' Federation obtained counsel's opinion on the power of the Victorian Department of Agriculture to order cases of Bananas which have been rejected under grading regulations to be sold outside of the State. In view of counsel's opinion, negotiations between the two bodies are proceeding.

Additional cool storage space is being provided at both the Kyabram and Ardmona canneries this season.

APPLES AND PEARS IN N.S.W.

Apples Over 1,000,000 Bushels; Pears 460,000 Bushels.

THE TOTAL CROP of Apples for the 1938-39 season is forecast by the State Marketing Bureau at 1,075,000 bushels, and Pears 460,000 bushels.

It is pointed out that the commercial crop may be lower than the above mentioned figures, and allowance must be made for adverse weather conditions.

The commercial Apple crop last season (1937-38) was forecast to yield 1,140,000 and Pears 450,000, but figures as to the actual production are not available. In 1936-37, 1,400,000 bushels of Apples and 360,000 bushels of Pears were forecast as indicated by conditions prevailing on December 18, 1936, and the actual outturn was 1,410,685 bushels of Apples and 399,046 bushels of Pears.

The Apple Leaf Jassid in South Australia

(By H. K. Kemp, Hons. B.Agr.Sc., Research Officer, Dept. of Agriculture, S.A.)

PART I.

ORIGIN — LIFE HISTORY — METHODS OF CONTROL.

Apple Leaf Jassid (Typhlocyba australis, Frogg.) is known to growers also as the Apple Leaf Hopper, and the Canary Fly. It is apparently of European origin, where it is found feeding on the native Hawthorns of France. From this centre, it has spread practically to all of the Apple-producing countries of the world. Probably it travelled in the egg stage buried in the bark of young trees and propagating material, such as bud sticks. In nearly every country it appears to have been re-named, but in each it has become a serious pest of the Apple, requiring control measures.

In Australia, it was first noted by Froggatt in New South Wales as Typhlocyba australis in 1918, causing severe damage to the Apple in certain districts, and was then mentioned as having been present for several years. Since that time, it has appeared in Victoria, Tasmania, and latterly in South Australia.

In South Australia, Apple Jassid has attained prominence only during the last three or four years, although it has probably been present for a longer period. The past three years, however, have seen very rapid rise in numbers and spread, so that it is now established in all but the most remote of our Apple districts.

Description of Adult.

The family Jassidae, of which this insect is a member, is grouped with the scale insects, the aphids, and other similar types into the Homopterous division of the order Hemiptera, the whole of which is made up of insects with piercing and sucking mouth parts; such insects require contact poisons or fumigants for their control. The adult insect is a slender greenish-yellow fly, about three-sixteenths of an inch in length, with a pair of prominent dark-brown eyes. At rest, the whole of the body is covered by the transparent wings which are folded tentwise and usually show a slightly metallic sheen. The color may vary from a very pale yellow, almost white, to a very pale green. The insect is very active, and as soon as the tree is disturbed, hops characteristically and takes wing. It is at this stage that the rapid spread within an orchard probably takes place. The adult Jassid perishes with the disappearance of its food supply at leaf fall in the Autumn, but before dying, the female of the last brood of Summer lays its eggs actually within the bark of the wood of that season's growth. These eggs are very minute and inconspicuous, appearing as a glassy oval blister, laid transversely across the twig. In this form the insect overwinters, and it is in this stage that the spread of the Jassid over great distances has occurred. In Spring, these eggs begin hatching, and the minute larvae or nymphs appear. The young Jasids crawl to the nearest leaf and commence feeding on the under surface. At this time of the year they are to be found particularly on the "first break" leaves on the outside of the bud cluster, the first leaves to emerge in the Spring, and the first which the young Jassid encounters as it crawls from the wood from which it was hatched. Considerable numbers may congregate on these leaves, which become distorted, curving back and partially protecting the young Jassid.

During five or six weeks after hatching the young nymph grows; periodically shedding its skin, and becoming more like the adult. No quiescent pupal stage is passed, but at each skin shed, the insect emerges more fully developed, the hopper legs and then wing buds appear, and eventually, the fully-formed insect, winged and sexually mature. During the later nymphal stages the Jassids move freely through the tree by hopping, but the younger stages are to be found almost exclusively on the few "first break" leaves.

The adult insect feeds for about a week before mating and commencing egg laying, and soon after this function is fulfilled, dies. The eggs laid by this generation of Jassid are buried in the midrib and the stems of the leaves; about mid-Summer they commence hatching, giving rise to a second generation which passes through the same stages. This brood, however, lays its eggs in the bark of the new season's wood growth. These are the overwintering eggs, which will give rise to the new brood of Jassid the next Spring. Under warmer conditions, a third brood may occur during the Summer. This has been recorded in New South Wales and is probably present in the warmer districts of South Australia.

Host Plants.

The Apple is not the only host of the Apple Jassid. It is found commonly on the Quince, the Plum, wild and cultivated hawthorns of the deciduous type, and more rarely on the Pear. Available overseas records of food plants are somewhat scanty, but it appears sure that the host range is fairly wide among rosaceous plants

Leaf Damage.

The Jassid feeds by thrusting its specially adapted mouth-part through the surface of the leaf, and piercing the inner cells, withdraws the contents. In feeding thus, it gives rise to two types of damage. The first, a mottled silvering, and distortion of the leaf, due entirely to the sucking of the leaf cell contents. At first glance, this discoloration resembles that due to the feeding of Red Spider; it is more mottled, and tends to be concentrated along the mid-rib, and especially in leaves damaged by the first brood nymphs, is also accompanied by distortion.

Fruit Disfigurement.

Jassids, in common with many other sucking insects, excrete excess sugary material in the form of honey dew which settles on the foliage and the fruit, and which, turning black with the growth of sooty mould fungus, gives rise to severe fruit disfigurement. This black speckling becomes more important long before there are sufficient Jassid to cause damage of moment by actual leaf destruction. Rain spreads and "tear stains" the deposit. It is very difficult to remove this stain without washing, and in store, the sugars of which is consists afford a starting point for mould to begin decay, and the keeping quality of the fruit is thus impaired.

The full life history of Apple Jassid has not yet been worked out exactly under South Australian conditions. The following is the account of the life cycle through the year as determined at the Cawthorn Institute under the conditions of New Zealand.

Life History in New Zealand.

"The insect overwinters in the egg stage, the eggs being deposited under the bark of the twigs. Hatching commences about the last week in September, and all the eggs appear to

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Extract from "BETTER FRUIT," March, 1937, by Dr. R. L. Webster, Entomologist, State College of Washington, Pullman: CODLIN MOTH COVER SPRAYS—"Ever since the imposition of an arsenic tolerance in 1926, and even before that time, investigators have been testing other materials which may be used in place of lead arsenate. Following all these intensive and extensive investigations lead arsenate appears to have certain inherent qualities which place this material foremost as an insecticide for codlin moth control."

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be hatched by the end of November. The nymphal period occupies from five to six weeks, the first adults appearing in the first week in November. By the third week of December, there are very few insects still in the nymphal stage. The adults of australis feed for about a week before mating. The eggs of the second brood are deposited in the mid-ribs and the veins of the leaves, the first eggs being noted about the first week in December. These eggs commence to hatch in the first week in January, and by the third week in January some of the nymphs are approaching maturity. At this time, the adults of the first brood have nearly disappeared. A few of the second brood eggs are still unhatched at the middle of February, when the adults of the second brood are abundant. Very few nymphs are present at the end of March, and these are nearly mature. The eggs of the second brood adults are deposited underneath the bark of the twigs, where they overwinter. The first of the overwintering eggs were found on February 13, and they are fairly plentiful at the beginning of March."

South Australia

Under South Australian conditions, the hatching is apparently two to two and a half weeks earlier in the warmer Apple districts, although in the colder districts in the wettest parts of the Mount Lofty Ranges, the above is probably very close to the local behaviour. In our warmer districts, the earlier hatch means that some adult insects are on the wing during the last week in October, and it is probable that as is the case in New South Wales, there is at least a partial third brood in these areas.

Control

Effective control of Jassid depends on a clear understanding of the seasonal life cycle. There is an important period in the Spring, through which complete control is very simply obtained. If this time is missed, the problem becomes very much more difficult and results are much less satisfactory. In Spring, towards the end of October, or the beginning of November, according to the climatic conditions prevailing, there comes a time when the hatching of the overwintering eggs is virtually finished, and the earliest hatched insects are gaining their wings. At this stage, the greater proportion of the Jassids are on the leaves in the nymphal stages. A spray with contact insecticide at this time will reach practically the whole Jassid population. This stage is indicated by the appearance of the first few winged Jassids.

Time of Spraying

Sprays applied before this time kill all Jassids which have hatched, but unhatched eggs cannot be reached beneath their covering of live bark, and only partial control can be obtained. If spraying is delayed after the Autumn period some of the adults have laid their eggs, and the second generation is assured. As stated above, a light population only is sufficient to cause severe fruit disfigurement, and it is this second brood which causes this type of damage.

When the first Jassids are taking wing, hatching of the overwinter eggs is practically completed. Nearly the whole of the Jassids are present as soft-bodied crawling nymphs, which are very easily killed. The eggs of the second generation are not yet laid, so that one spray applied at this time should result in control for the whole of the season.

A second weak point occurs in the life cycle during mid-January, but one not nearly as satisfactory from the control viewpoint as that in early Spring. At this time, hatching and maturation are not nearly as well defined. Long after the second brood adults have appeared, some eggs are still hatching, and such complete control as obtainable during the Spring brood is not possible, with a single spray application. If, however, control has been missed during the Spring months, spraying at this time may result in saving the situation.

The seasonal life history will vary for the districts between these extremes, but a reliable guide is available for the timing of spraying. Spraying should begin with the appearance of the first winged adults, and should be completed within one week of this time. Earlier or later spraying will certainly result in being less effective of control. In practice, it will be found that the time for spraying varies on the different Apple varieties, apparently the hatching of the egg is influenced by the sap flow of the tree in which the egg is buried. Earlier varieties will be found ready to spray before those breaking later, and the spraying period is thus somewhat extended.

It must be emphasised that timing is all important in spraying for Apple Jassid. If the sprays can be applied during the period indicated, a very complete control is possible, and it will rarely be necessary to repeat the treatment for that season, but spraying must be carried out at the time indicated by the development of Jassid. It cannot be applied at any set date if the best results are to be obtained.

Spray Material

Forty per cent. nicotine sulphate at dilution 1 in 800 will be found the most effective spray for the control of Apple Jassid. This strength of nicotine solution is immediately lethal, and it will be found also that Jassid on leaves which have been only partially sprayed and not actually touched by the solution are killed by the fumigant action of the nicotine.

Some growers have noted that lower strengths appear to give satisfactory results, but at lower strength this fumigant effect to some extent is lost. At the time for spraying, the Jassid are chiefly to be found on the most inaccessible leaves, and are further protected by leaf distortion, so that many are missed without this property of fumigant effect in the spray solution.

Trials were conducted testing out these lower concentrations and are reported in the second section. A strength 1 in 1,600 gave good results if spraying was heavy and at high pressure. Few growers spray heavily enough to justify the use of this solution, however. At lower strength the Jassid are only killed if thoroughly saturated, and it was noted that many insects apparently dead soon after spraying, recovered activity after a few hours. This strength cannot, therefore, be recommended.

In spraying for the control of the Spring brood of Jassid, it is all important to wet the undersides of the leaves and especially of those "first break" leaves which were first to emerge in Spring. It is upon these leaves that the greater part of the first brood population will be found, and there is no portion that is harder to spray properly. They can only be covered by spraying through as well as from the outside of the tree.

It is of considerable advantage to use as great a pressure as obtainable. It has been found that the mechanical action alone of the spray at high pressures results in the washing off of many of the insects. An efficient spreader will also increase the efficiency of the nicotine solution.

Combination Sprays

Nicotine sulphate mixes perfectly with both lime sulphur and lead arsenate so that Jassid spraying can be combined with the Codling Moth and the Apple Scab control schedules in most instances. It must be repeated, however, that the timing of the spray is all important in the control of Apple Jassid, and if the use of a combination will result in the upset of this timing, then it will be found more profitable in the long run to apply the sprays separately. In this connection, it should be remembered that the application of a contact insecticide at this time in the Spring is valuable in checking Red Spider and Woolly Aphis, the latter especially in warmer districts. The use of the greater strength of nicotine sulphate, 1 in 800, may often be justified for aphis control alone, apart from the control of Apple Jassid.

Several growers have noted that lime sulphur spraying has resulted in reduction of Jassid. Lime sulphur is not, however, recommended as a sole means of control. At strengths of less than 1 in 50 it is not effective. One in 50 is only partially so, giving a control equivalent to less than a quarter of a pint of 40 per cent. nicotine sulphate per 100 gall. At the correct Jassid spraying time, a strength of lime sulphur effective for Jassid control is dangerous, from the point of view of spray burn.

Summary

(1) Apple Jassid apparently originated in France, and has spread practically throughout the Apple-growing countries of the world.

(2) Its appearance locally is comparatively recent, although it has been known in other States of Australia for over 20 years.

(3) It has been found in South Australia feeding on the Apple, Pear, Plum, Quince, and the deciduous Hawthorns.

(4) Study of the life history shows that the time most effective for control by spraying is at the appearance of the first few adults of the first Spring brood.

(5) A second effective control period occurs during January, at the appearance of the first adults of the second brood, but it is harder to gauge and the conditions are not as favorable for control.

(6) Forty per cent. nicotine sulphate at 1 in 800 gives very efficient control, the spray killing both by direct contact and by the fumigant effect of the fumes.

(7) Where extra time can be devoted to heavy spraying, 1 in 1,600 nicotine is effective, but the important fumigant effect is not so marked, and this strength cannot be generally recommended.

FRUIT FLIES.

Lure Recommended.

Fly traps are a very effective means of dealing with the Fruit Fly, and the lure recommended consists of vanilla, one teaspoonful; household ammonia, one tablespoonful; water, three breakfast cups. The lure should be renewed weekly and the traps placed at least one to every eight trees.

The poison foliage spray recommended is: Sodium fluosilicate, 2 oz.; sugar, 2½ lb.; water, 4 ozs. This is applied weekly at the rate of six fluid ounces per tree, taking care not to splash the fruit unduly. The sodium fluosilicate should be dissolved in the bulk of the water necessary, as it will not dissolve in a small quantity.

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TESTS OF HAND POLLINATION of Apples on a commercial scale in the State of Washington (U.S.A. Pacific Coast) show the practice to be profitable where there are solid blocks of self-sterile varieties or poor insect activity due to wind or other climatic factors at blossom time. This information comes from experimenters Messrs. F. L. Overlay and E. L. Overholser, a summary of their researches, published in the "Journal of the American Society of Horticultural Science," is being summarised by the Imperial Bureau of Horticulture.

The pollen is collected from early blooming sections by removal of flower clusters and separation out of the anthers by rubbing the flowers over a No. 12 wire screen. It is then dried in paper trays for 36-48 hours at room temperature. It is applied with a No. 7 pig's hair brush and a skilled operator will apply pollen to 1 or 2 flowers of about 1 out of every 4 or 5 spurs on a 20-year-old Apple tree in ½ to 1 hour.

Red-Legged Earth Mite.

C.S.I.R. Entomologist Returns from Overseas.

After an absence of ten months, Dr. A. J. Nicholson, Chief of the Division of Economic Etymology of the Council for Scientific and Industrial Research, has returned to Australia. He has visited France, England and the United States to study the advances of research work being undertaken for the eradication of the Red-Legged Earth Mite and other pests.

Dr. Nicholson stated that America was spending more money than the other countries in catching pests in an endeavour to find natural enemies, but the results were not promising. Though the Red-Legged Earth Mite was essentially an Australian problem, it was also found in Cape Colony and California. Grasshoppers were causing much more damage in South Africa than in Australia. It has been found that poisoned bait was cheaper and more effective than dusting and spraying from aeroplanes.

INSECTS THAT KILL BUGS.

Imported to Aid Hawaiian Pineapples.

Travelling 14,000 miles over desert, jungle and sea by Imperial Airways and Pan American 'planes, a shipment of African Ladybirds has arrived at Honolulu and they are now busy reducing the number of Mealy Bugs that attack the Pineapple crops in Hawaii. They are natives of Kenya Colony, Africa.

Mr. A. B. Melville, of the Kenya Department of Agriculture, searching for a beneficial insect which preys on the Coffee Mealy Bug, found also a specimen of Ladybird that preys on the Pineapple Mealy Bug. He caught several of them and sent them to the Experimental Station of the University of Hawaii at Honolulu.

Mr. Walter Carter, the university's entomologist, reports that the insects, after their fourteen thousand miles' flight, arrived in excellent health and made short work of the Bugs attacking the Hawaiian Pineapple.

In special containers the insects were flown by Imperial Airways 2,844 miles from Nairobi to Alexandria.

CANADIAN APPLES.

May Be Grown on the Prairies.

According to advice received from the Canadian Government Trade Commissioner, the Canadian Prairies, one of the richest grain - growing districts in the world, is now beng considered suitable for fruit growing. Professor J. S. Shoemaker, prominent horticulturist of the University of Alberta, has developed an orchard in Edmonton which includes 300 varieties of Apple trees, Plum trees and other fruit trees.

A feature of Dr. Shoemaker's experiments is an Apple tree shoot, less than two feet high, planted last Spring, which has already produced luscious fruit.

Through experiments and grafting, he has succeeded in producing stocks which are almost impervious to either Summer's drought or Winter's cold, a necessary characteristic of plants to be grown on the broad Canadian Prairies.

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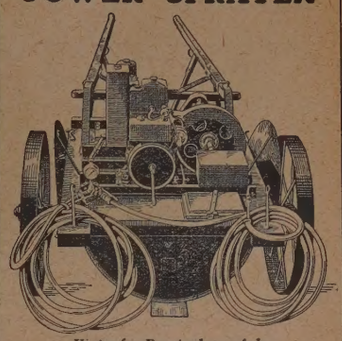
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BANANA LEAF SPOT CONTROL.

Summer Bordeaux Sprays Successful in N.S.W.

THE experiments conducted by the N.S.W. Department of Agriculture on Banana plantations in the Tweed district have indicated that leaf spot, which has been responsible for the loss of up to 25 per cent. of the fruit, can be controlled by the application of fungicides during the Summer months.

Mr. H. W. Eastwood, Senior Fruit Instructor, N.S.W. Dept. of Agriculture, stated recently that almost a complete absence of leaf spot may be assured by the application of five sprayings of Bordeaux mixture at monthly intervals, and a practical degree of control can be gained by as few as two sprays at intervals of one or two months, beginning in mid-December.

The sprays were applied with the object of protecting the lower surface of the youngest two leaves. Each spraying allowed approximately two leaves to be carried into maturity by plants which bunched during the Summer months. The possession of four or more leaves by plants at a late stage of bunch maturity ensured normal filling of the fruit and the absence of sun-burning.

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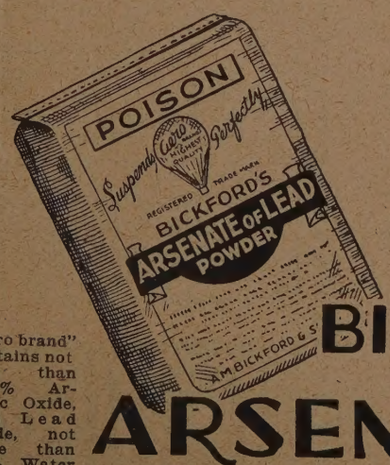

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VICTORIA

The Goulburn Valley

SEASONAL PROSPECTS REVIEW — VALUE OF IRRIGATION.

(By Our Correspondent.)

NEVER BEFORE has the value of irrigation been shown more clearly than this season; although there have been two extremely dry Winters in succession, causing an acute shortage of water in the reservoirs, and consequent restriction on irrigation areas, the primary producer with a water right is in an immeasurably better position than his friends in dry areas.

The prospect for the two main primary industries, dairying and fruitgrowing, is fair, and prices are the chief worry for these industries. Graziers and wheat growers, however, are having a bad year.

Early this month, on December 6, the Sugar Concession Committee met to fix the prices for canning fruits for the 1938-1939 season: but owing to the unsettled state of the market overseas, no agreement was arrived at for Peaches and Pears. It was decided to defer the matter till mid-January in the growers' interests, hoping for an improvement in the British market.

The prices however for **Apricots**, were fixed at the same price as last year, namely £12 for canning and £10 per ton for jam. The jam price to be delivered at factories; Plums and Quinces and jam Peaches were fixed at £6 per ton delivered, which is £1 per ton less than last year.

The Apricot crop

picked out light, and is now finished, prices on the local market were much better than in previous years owing to light supplies.

The Shepparton Cannery started processing Apricots a few days before Christmas: while the Ardmona Cannery will start processing on December 28, and expect to have sufficient Apricots to last for one week only, which is a considerable reduction on last year's figures.

The water position is still very acute, many growers cannot get sufficient for immediate needs, while other and more fortunate growers have been able to buy additional water from dry land owners.

In fact, water is at a premium, and as high as £3 per acre foot has been paid, and is in keen demand even at that high figure.

The chief topic of conversation among fruit growers is "how long will the water last." If irrigation water gave out early in February it would be a disaster for the late Peach crop: but in view of the rigid restrictions placed on the supply, it is hoped that it will last into the month of March.

What we need badly is a big rain to replenish supplies and fill storages.

Shepparton Cannery.

At the annual meeting of the Shepparton Preserving Co. Ltd., the managing director (Mr. A. W. Fairley), in submitting the balance sheet and statement of accounts said that financial results had not been as satisfactory as in the previous season, but it was pleasing to note that the turnover was well maintained at the satisfactory figure of £630,225.

The net profit after deducting all expenses and depreciation, and making allowance for taxation amounted to £17,799/12/1 for the year.

The balance brought forward from last year was £10,050/16/10, making a total amount of £27,850/8/11 available for distribution.

A bonus payment of £11,780/11/2 was paid to growers, together with a dividend of 12½ per cent. on ordinary shares and a dividend of 6 per cent. on preference shares.

In speaking of the crop for the coming season, Mr. Fairley said the cannery would take all the Peaches and Apricots available, and would again take 3,500 tons of Pears. Two other canneries would each take 400 tons of Pears from Shepparton district, and he doubted if there were more than 4,300 tons of Williams Pears on the settlement this year.

Mr. Fairley also, at the close of the meeting, conveyed two warnings to growers:

The first was the same warning which has been given at each annual meeting for the past five years, against **excessive plantings of canning fruits** when there was no guarantee of a market.

The second warning was for growers to **thin out Peaches** so that the fruit came up to size.

Small Peaches could not be sliced and were very difficult to market. He had inspected the orchards and would be surprised if there were not a number of Phillips Clings and Goodman Choice which did not come up to size.

Ardmona Cannery.

The annual meeting of the Ardmona Fruit Products Co-Operative Ltd. was held on December 16, at the Ardmona Hall.

During the year just completed, the company processed 8,887 tons of fruit, producing 13¾ million cans of fruit, together with 293 tons of pulp. This constituted a large increase on the previous record of the company.

The year's trading has resulted in a net profit of £5,292/8/- after deducting all expenses and making adequate provision for depreciation and taxation.

Although the season opened well and preliminary bookings were extremely satisfactory, the improvement of 1937 was not maintained, due particularly to the excessive accumulation of American stocks, which were being offered at prices under the selling price in London for the Australian product.

The turnover for the year constituted a record for the company, but was not sufficient to clear stocks. A substantial carry-over being indicated by the balance sheet.

The additional plant installed prior to the season's operations has functioned satisfactorily and has been fully employed in handling the large tonnage.

It has been found necessary to provide more cool store space **and four new cool store chambers** have been erected and will be in operation during the coming season.

This company is gradually growing into a sound financial position, and has a bright future provided the London market prices for canned fruits remain on a payable basis.

The prospects for satisfactory prices for growers for the coming season are not particularly good.

The Sugar Concession Committee had already discussed all aspects of the position and decided to defer the fixation of prices for Peaches and Pears until January 17. It is hoped by then a better estimate of the position can be made, but unless some unforeseen circumstances happen, prices for Peaches and Pears are bound to be fixed on a lower scale than last year.

It must also be remembered that the amount available for export bounty on Peaches, Pears, and Apricots this year was only £24,000, against £48,000 last year.

Codling Moth is particularly prevalent this year owing to the hot dry weather, and Rutherglen Bug has made its appearance in some orchards in the Valley.

Growers have just completed their fourth spray on Williams Pears, and to keep the crop clean, another spray will be necessary in mid-January.

Temperatures during Christmas week have reached over the century mark.

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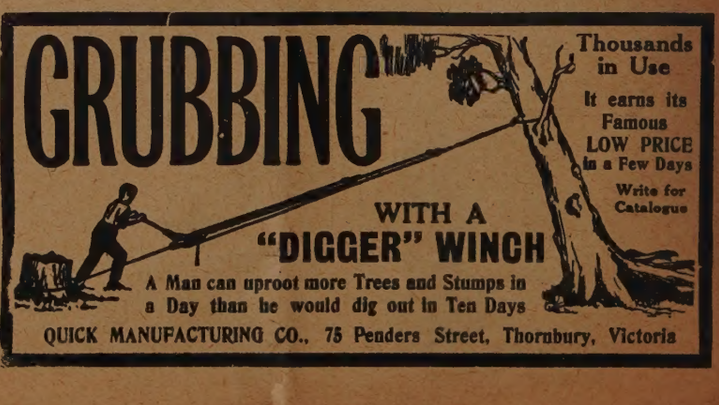

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Tasmania

NORMAL CROP OF APPLES — PEARS GOOD — DAMAGE BY WIND — SPRAYING DIFFICULTIES — BIRDS A SERIOUS PEST — OVERSEAS MARKETS — BLUSH ON GREEN APPLES.

(From Our Correspondent.)

WEATHER CONDITIONS during November and early December have been a little trying. There have been high winds, and general rain again set in on December 9, and continued over the terrific. It is too early for it to cause windfalls to any great extent, but it has torn the leaves about and taken off the fresh Spring look.

Crop prospects are not quite so good as they promised to be earlier in the season. Apparently frosts cut the crop down in some localities, but, strange to say, Pears don't appear to have suffered. **Apples** in places have dropped to an abnormal extent, especially in the Tamar Valley and Lilydale. **Jonathans** are very light in both these districts, but heavier than usual in most southern districts.

Alfristons are showing for a fair crop still, and are in request for F.O.B. orders.

Worcester Pearmain seem quite up to the average, while **C.O.P.** are now on the light side, having dropped heavily in most districts. **Cleo.** dropped rather heavily, which will probably result in an undue proportion of large fruit.

Jonathans are light in the north and heavy in the south, on the average.

French Crabs appear to be quite good, also **S.P.M.** in most districts.

Sturmers, though light in places, should come up to the average, and **Granny Smiths,** of which an ever increasing quantity is being grown, are carrying fair crops, while **Democrats** are heavy in most localities, which will help to keep the size down to the market's favorite sizes. Other varieties are mostly carrying fair crops.

All things considered, Tasmania's Apple crop should be about normal for young orchards coming into bearing, and the re-worked trees should fully compensate for odd varieties and districts being on the light side.

The Pear crop seems to be good all through the State, especially **Winter Coles** and **Packhams.** There is a little Spot showing in places, but at present date not serious.

Routine cultivation with disc harrow and spring tooth is proceeding, and the recent rain will make it advisable to do it again before the ground sets.

Spraying is in full swing for moth, Canary Fly and Red Spider. The majority of orchards have healthy foliage up to date, but the constant wind makes spraying difficult.

Green Manure Crops.

Lupins are becoming a favorite crop for green manure, but whether they are better than Horse Beans is hard to say; the latter are prone to become affected by Aphis.

Band Pests.

Small fruits are looking well, and the recent rain should ensure a good crop. The blackbirds and starlings are a serious menace and are increasing. The former appear to tackle any variety of fruit, even the softer sorts of Apples, while the starlings are making serious inroads into the Raspberry beds and Loganberries, but Strawberries seem the favorite. Can either of these pests be poisoned? If so, what is the best bait and poison to use? Any information on the subject would be welcome to your Tasmanian readers.

If the N.S.W. and Victorian Apple crops are as light as reports would lead us to believe, the mainland market should be very good for the 1939 season.

Buying for oversea markets is rather brisk at present, **Dunns and Democrats** being in demand for Continental markets. **Cleos** are being keenly sought after for both the United Kingdom and the Continent, and **Grannies** for all markets.

The Anglo-American Trade Agreement appears to protect the Australian Apple and Pear trade reasonably well, provided America does not dump large quantities on the United Kingdom markets immediately prior to the raising of the duty on April 15 and holding them in cool store for subsequent sale.

Blush on Green Apples.

Many growers read with a little amusement Dr. Harrison's remarks on green varieties of Apples frequently arriving "distinctly blushed." Can he or anyone else suggest a feasible method of preventing them doing so? It is quite natural and normal for all the varieties he mentions to have a blush on the sunny side. Are we to use color filters? Some of these complaints appear to be mere fastidiousness. If all green varieties are to have the blushed ones culled out it would never pay to grow them.

We learn with regret that Victoria and N.S. Wales crops were so badly damaged by the recent gales. It is reported that Mornington suffered severely and that the coastal districts in N.S.W. lost heavily in the early varieties of fruit. Tasmania suffered rather badly, but to judge by reports not quite so much so as the mainland States.

It is probable that Black Spot will become a trouble here as the gale was accompanied by continued showery weather, with some very heavy falls in places. On top of our local troubles we have the constant uncertainty caused by the international situation, which appears to be getting worse.

View of the Channel, Tasmania, looking towards the mouth of the Derwent, showing orchards on the points on the left and north. Bruni Island on the right.

FRUIT CROP FORECAST

REVISED ESTIMATE IS NOW FOR 3,800,000 BUSHELS OF APPLES AND 280,000 BUSHELS PEARS.

The Hon. the Minister for Agriculture (Mr. R. Cosgrove) is in receipt of the following report from the Chief Horticulturist relative to the forecast production of Apples and Pears for the 1938-39 season:—

Apples.

Since the last report variable weather conditions have altered the position in regard to certain commercial varieties. The dry period following setting resulted in a fairly heavy drop in some areas whilst the recent unsettled weather caused a certain amount of Black Spot development. Slight frost injury and hail should also be mentioned.

In the aggregate it is estimated that there has been a reduction of approximately 10 per cent. which on the basis of last report would mean that the commercial crop is likely to be in the vicinity of 3,800,000 bushels.

The behaviour of the varieties in the different districts is by no means uniform, Alfriston, Cleopatra and Delicious have, however, experienced an unusually heavy drop in some areas, whilst Crofton and Democrat have improved.

Pears.

There is little alteration to report in the Pear crop prospects, and it is expected that under normal conditions of development at least 280,000 bushels will be harvested. Josephines, which were reported as patchy in the last forecast, have dropped heavily in one or two districts.

Monthly Orchard Notes.

Weather and Crops.

Unsettled conditions have been the main feature as regards weather, and intermittent rains have now ensured a moisture content in the soil sufficient for the development of the young fruit for some time. Considerable hail injury has been reported from several localities, but was not by any means general.

High winds have also done a certain amount of damage. Temperatures during November were above average and coupled with the rainfall experienced growth has been rapid. Rainfall records obtained from the Weather Bureau for the main centres are as follows: Hobart 224, compared with the average of 243; Franklin 191, compared with 300; and Launceston 229, compared with 181.

Since the last report a fairly heavy drop has occurred amongst Apples which will be responsible for a reduction in the total commercial crop apaproximately 10 per cent. Pears have also shed in some instances, but at the present time trees are generally carrying good crops and thinning has been found necessary.

(Continued on Page 10)

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TASMANIA—(*Continued*)

Pests and Diseases.

With the moister conditions experienced, **Black Spot** has appeared, but so far this is only serious where the recommended spray programme has been curtailed and inadequate. Attention paid to post blossom applications—lime sulphur-colloidal sulphur spray mixtures are most favored, but where arsenate of lead is incorporated with this mixture hydrated lime should always be included as a safety measure.

Red Spider, Powdery Mildew and Canary Fly appear to be well under control at the present time, but Pear Mite is more prevalent than in past season, and Autumn control sprays will be necessary in some areas. Codling Moth, though by no means bad, will require to be carefully watched. Struck fruit should be removed and destroyed and a good arsenate cover maintained, particularly where frequent heavy showers have occurred.

Berry Fruits.

Rains have proved very beneficial to Raspberry, Loganberry and Black Currant crops and arrived in time to considerably increase the quality of Gooseberries in the later areas. Strawberries in the earlier districts had already commenced to ripen when the rains arrived, and loss was sustained through rotting. The severe hot winds and generally dry period at blossoming also injured a large proportion of the later flowers, causing wilting and abscission. The loss sustained from these causes probably reduced the crop by 25 per cent.

The English blackbird has become a very real menace in areas around Hobart, ad unless every individual carries out a vigorous campaign against it the position will be very much worse in the near future. A pair are capable under Tasmanian conditions of producing three broods of four each season, which may serve to give some idea of their rapid increase. This is not the first time that reference has been made to this pest in these notes and everyone is again urged to co-operate.

Stone Fruits.

Much of the Cherry crop has already been harvested and the quantity and quality has rarely been better.

Peaches are also coming along well where Leaf Curl and Aphis have been properly controlled with spraying.

The rains arrived in time to give the Apricots much needed assistance and they have sized up rapidly. In orchards where mummied fruits were not destroyed and where diseased spurs were left on the trees, Brown Rot has already appeared. If January and February turn out reasonably dry and steps are taken to remove affected fruits and spurs now, excessive losses at harvesting time should not occur.

Hobart, 22/12/38.

NEWS IN BRIEF.

It is believed that the blowfly pest, which costs Australian sheepmen between four and five million pounds yearly, has been overcome by a discovery made by Dr. George Watt, of Wellington. He uses a blue solution, the color of which repels flies, and no harm is done to the wool. The cost is said to be absurdly low. Tests made have proved that the remedy is 100 per cent. efficient.

The compulsory use of gloves for picking Oranges is being urged on the Murrumbidgee Irrigation Areas.

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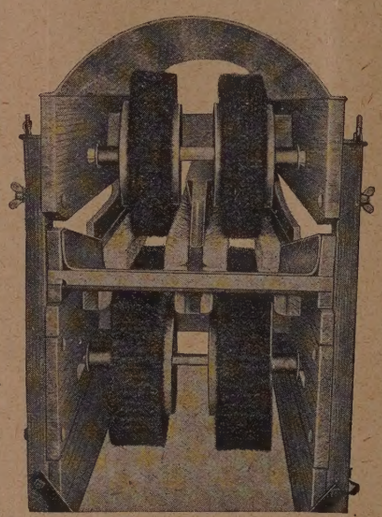

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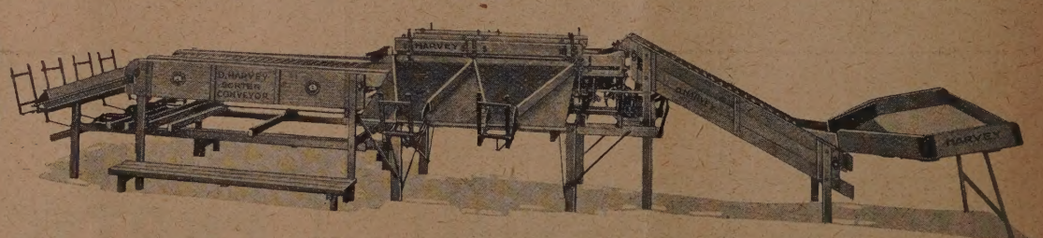

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NEW SOUTH WALES NEWS & NOTES

Murrumbidgee Irrigation Areas

CROP REPORTS — APRICOTS, PEACHES, APPLES, CITRUS NEWS AND NOTES.

(By Our Special Correspondent.)

THE long continued dry spell of weather and high temperatures has had the effect of bringing on the Apricot crop somewhat earlier than usual, and large quantities have already been sent to Sydney for the fresh fruit markets, while the canneries are also receiving fruit in quantity. The quality of the fruit is large and clean, and should fetch good prices on the fresh fruit market.

Owing to the devastating storm which struck the coastal areas of N.S.W. early in December, the crops in those districts have been either swept off the trees in an immature state or will be so thinned out as to be of poor quality, and from the fruit appearing in the shops in Sydney during the past week that from the Irrigation Areas stood out for both quality and appearance.

Prices have been reasonably good for good grade fruit, and should net a satisfactory result to the growers this season. The price being paid by the canneries for canning grade fruit is £12 per ton, with £9 for jam fruit, and from 6/- to 8/- per half case Sydney.

The Apricot crop should therefore prove satisfactory to growers both as respects prices and quantity, as there are some excellent crops around both ends of the Area, and a freedom from disease, probably most of the fruit will be used in its fresh state and but little dried. Some slight damage has been noted on stone fruits, due to the attacks of the "Dicyphus Bug," and some fruits show spots of gum oozing through the skin, but the damage done is not of any great extent, and the Rutherglen Bug which at first showed up some weeks ago in small swarms seems also to have disappeared.

Fungus Diseases.

Probably owing to the long dry spell of hot weather, fungus diseases of all kinds which have shown up in previous seasons are comparatively scarce, and although growers have sprayed their vines earlier in the season, little sign of any danger by mildews is to be feared while the present weather lasts, but should there be a break in the season, as very often occurs in these districts about the end of December, growers will be well advised to keep a keen look out for Downy Mildew, which has assumed menacing attitude in previous years towards the ripening period of the Grapes.

Citrus Crop Report.

There has been a very heavy crop in the newly formed crop of both Navel and Valencia Oranges, and the general report from growers is that their crops are considerably lighter than in previous seasons.

Although the Christmas crop is usually a fairly heavy one, this season the fruit commenced to fall far earlier than usual, and at a smaller size than it generally attains at Christmas time, and probably the lack of subsoil moisture has been a large factor contributing to this premature shedding of citrus fruits.

Control of Dicyphus Bug.

The Dicyphus Bug previously referred to has been reported as doing a considerable amount of harm in the Young District, but although it has been found on these areas the damage done has not been very severe.

This bug is larger than the Rutherglen Bug and attacks the stone fruits in the green stage, and in addition to the pitting of the fruit, causes an exudation of gum to appear which renders the fruit unsightly and useless.

This Bug usually is more prevalent on vegetables, Cucumbers being particularly liable to its attack.

The preventive methods advocated by the entomologists of the Department are dusting or spraying, and a pyrethrum product spray prepared by some of the proprietary companies, consisting of 1 lb. of this preparation to 50 gallons of water, has been used with satisfactory results.

Granny Smith Crop.

The previous estimate given in respect to the Granny Smith crop has apparently been realised, and the crop is extremely light. Some growers have picked the few remaining Apples from the trees in an endeavour to cope with the Codling Moth by removing its main source of supply, and also with the idea of saving the costs of spraying where the crop is too light to warrant the expenditure.

A most determined effort is being made to stamp out or at least greatly reduce this formidable pest, and as a greater infestation is generally to be noticed in the seasons of light crops, those growers who remove their green Apples must be particularly careful in the spraying of any trees which are carrying a crop, or of other varieties which have not shed their fruit.

In previous seasons the Codling Moth has been noted as attacking both Apricots and Peaches, and if its natural host is not available it will undoubtedly attack other fruits—**"necessity knows no law."**

Very few Peaches are grown for the early fruit market, and it will be some time before Elbertas are ready to forward.

Tractor cultivating in a Citrus grove.

There are still a number of growers who have retained an acre or two of this variety, although quite a large acreage has either been taken out or worked over to canning varieties, but those who produce good fruit find a fair return for it and quite a quantity is dried each season.

Nectarines, principally those of the Goldmine variety, are grown to some extent, and one noted block of one acre has given consistent and remunerative returns for many years.

The crop this year appears to be somewhat lighter than usual.

Angelina Plums and those of the early Japanese varieties are well advanced and although the acreage under this fruit is not a large one, the fruit is usually marketed early or sent to the jam factories. Some very fine quality fruit has been noted this year. The Angelina Plum is mostly planted as a pollinating variety for the Robe de Sargent Prune, and also acts as a pollinater for the Prune D'Agen when the blossoming period is extended over some days.

The ban on Apricots from the Yenda District being introduced to the Leeton Cannery has been lifted.

Owing to a slight outbreak of **Peach Tip Moth** in a portion of the Griffith area, all fruit from these two districts was forbidden entry into the Leeton area, which was entirely free from this pest. After three seasons, however, this pest has practically made no advance or increase, in fact, a great diminishing of the insect has been noted. A very close inspection of the Griffith area has been kept by the local inspectors, and the resident entomologist, Mr. Wason, and owing to the precautions taken by placing traps on various farms to note any extension of the trouble, the fact has been established that no great spread has occurred. At various periods parasites have been released by Departmental Officers, and these may have also aided in the suppression of this pest, which has attained such a hold in the Goulburn Valley.

Whether climatic conditions on this Area are more severe, or whether natural parasites besides those released are at work, the fact remains that what appeared at one time a probable serious menace has now assumed negligible proportions, and the closest precautions are being maintained to eradicate it altogether.

The Yenda growers will welcome the release of the embargo on their fruit, and it is stated that the Leeton Cannery can easily take the whole of the estimated fruit available, being somewhere in the vicinity of 300 (three hundred) tons.

The fruit sent to Leeton will under the regulations imposed be conveyed by road to the Leeton Cannery, and every precaution in the way of sterilisation and segregation of the cases containing the fruit will be observed.

During the early part of the month, two very severe fires occurred on the Area, the P.D.S. shed at Leeton being completely destroyed, and also the Yenda Producers' Shed. The loss of these two large buildings at this time of the year is very serious, but it is not anticipated that it will greatly interfere with the shipping away of the Apricot crop to Leeton, although some alteration in the present arrangements may be required.

The calamity of two such fires in different parts of the Area so close together has caused some consternation, and the Griffith Producers' Co-op. Coy. has taken additional precautions to safeguard the interests of their shareholders, so that no such circumstance can occur to their huge stack of fruit cases and the commodious premises they possess. The night patrols have been doubled and other special precautions instituted.

McWilliams large winery is separated from the Yenda Producers only by the width of a railway line, and this huge building, containing its large stocks of wine and spirits was also in great danger.

At one time the building ignited, but the volunteer firemen stuck manfully to their task, and ultimately the fire was prevented from spreading.

Fortunately the ammonia cylinders were not fully charged and although there were several slight explosions, the damage done was not as serious as would have occurred had the fire

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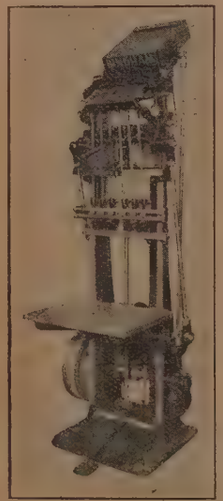

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New South Wales Notes—(*Continued*)

taken place later in the week when the ammonia cylinders would in all probability have been fully charged.

The damage is estimated at between £7,000 and £8,000 and the premises were covered by a fluctuating policy in accordance with the stock on hand.

Only a very fine water supply saved McWilliams Winery from destruction, combined with the united efforts of many willing volunteers.

The dry farming areas surrounding the Irrigation Areas are a scene of desolation and crop failures are general throughout these districts. The crops failed to grow sufficiently to cut for hay, and in the few cases where some hay was harvested the quality is poor.

According to the report of the Agricultural Instructor (Mr. Autry-Hall) a reduced area of fallow as compared with last season will be the result owing to the dry Winter and early Spring, and a corresponding decrease in next season's crop must be anticipated.

What a different picture the areas served by irrigation present! Following an excellent germination, almost perfect weather conditions for the growing of the young Rice crop prevailed. The submerging of the Rice combined with the hot days suppressed the Barnyard Grass, that menace of the Rice grower, and in consequence of the combined circumstances it is anticipated that specially clean crops of Rice will be harvested on the Mirrool area, and probably a record production for the area sown will be the result.

The permanent pastures are also now showing up in luscious new growth, where the water has been kept well up to them, and both Wheat and Oat crops harvested for grain have yielded excellent results.

The bushel weight of ths Wheat harvested from irrigated crops has been exceptionally high this season, and in some cases as much as 68 lbs. per bushel has been recorded.

The water position owing to the depletion of the Burrinjuck Reservoir is still acute and is creating a problem for every individual farmer to utilise the available supply to the best advantage.

For such magnificent areas of pasture and Lucerne as are to be seen in the Warburn and Benerembah districts to fail, to say nothing about the Rice, would indeed be a calamity, and it is to be hoped that heavy rains will soon replenish this supply, and enable the farmers to further develop a district which is of immense importance to the State.

ORCHARDS WRECKED BY STORM.

Heavy Loss Suffered Around Sydney.

Heavy loss was sustained by orchardists around Sydney during the storm which caused widespread havoc on Saturday, December 10.

Fruitgrowers in the Pennant Hills-Carlingford district, who supply quantities of fruit to the city markets reported in some instances a total loss of fruit. Peaches, Plums, and Apricots lay thick upon the ground the following day, and men were busily engaged burying the windfalls. At Chipping Norton, near Liverpool, fruit trees were stripped of all fruit, making the third successive year in which growers in this area have suffered loss through storms.

Extensive damage was caused around Gosford, a noted citrus growing district, and the losses in this area are estimated to run well into five figures.

Peach Breeding

Important Work at Leeton, N.S.W.

CANNED PEACHES are probably the most popular of canned fruits, and their production is an important industry on the Murrumbidgee Irrigation Area and in the Goulburn Valley, Victoria. With the progressive desire of canners to improve the quality of the product, some profound changes have occurred in the varieties grown locally, and a high standard of quality is now demanded. Golden Queen is now recognised by canners to be the most suitable variety for their requirements, and it has been planted very widely in preference to all other varieties, though closely followed by Pullar's Cling, which though less acceptable on account of its red pit, is a consistently heavy cropper. To avoid the mid-season congestion at the cannery, which appears to be inevitable, there is an urgent need for the production of new varieties of the Golden Queen type, both earlier and later. Much responsibility, therefore, rests upon Mr. Poggendorff, Plant Breeder at the Rice Research Station, Leeton, who is engaged in the breeding of suitable new varieties. In the work, co-operation is effected with local canners, who undertake the experimental processing of a few new seedling varieties each year. Halford, a variety recently introduced from America, is reported to be a promising new Peach, being very attractive in appearance, of good size and quality, and canning a clear product in spite of a trace of red at the pit. Gaume, another new American variety, was commented upon less favorably.

Mr. Poggendorff considers, however, that with some crossbred seedlings of the parentages Tuscan x Leader, Leader x Phillips', and Phillips' x Triumph, one of the objectives sought appears to be well within sight. Canning trials of some of these fruits as well as some seedlings of a South African variety, viz., Yellow Transvaal, have shown their very good promise. The last-named variety has highly colored yellow fruit of excellent quality, as well as a short period of defoliation, and it is being used extensively by Mr. Poggendorff as a parent in further crossing.

During his viist to America in 1935, Mr. Poggendorff obtained from Dr. Wight, of the United States Department of Agriculture, budwood of a collection of Peach breeding material, but unfortunately it failed to survive the journey. A similar collection of material has now been supplied through the courtesy of Mr. Young, Ardmona, Goulburn Valley, Victoria.

The production of superior new varieties of dessert Peaches in being undertaken by Mr. N. S. Shirlow, Plant Breeder at Hawkesbury Agricultural College. The promising seedlings of the Blackburn-Triumph and Goldmine Nectarine-Triumph crosses distributed to orchardists for trial have not yet fruited with them. Additional crossbred seedlings fruited at Hawkesbury Agricultural College last season, but in most cases they ripened at the same time as already good standard varieties such as Aunt Becky, Wiggins, etc., and were not outstanding in comparison with them.

Trouble is being experienced with the poor germination of crossbred seeds where the mother parent is an early ripening variety, as the embryos in such early varieties are frequently abortive.

N.S.W. Fruit Crop Prospects

Apples Medium :: Pears Light Citrus Poor

FRUIT CROP PROSPECTS, according to the latest advices from the N.S.W. Department of Agriculture, are set out in detail as follows:—

Pome Fruit (Inland)

Apples.

A number of storms were experienced on the **Northern Tableland,** but, apart from some hail damage at **Kentucky,** conditions favored rapid growth. A good crop of Granny Smiths is in sight but Jonathan, Delicious and Tasma range from light to heavy; a useful crop, however, should result.

A fall of rain over the **Young** district on November 27 should benefit pome fruits. Apple prospects range from moderate to very light. Granny Smiths have outgrown their deformed condition to a great extent, but only light yields are expected. The best production is likely to come from Jonathan, Statesman and Tasma.

Several heavy hailstorms occurred in the **Bathurst Blue Mountains district,** and generally, conditions were not favorable. Only a few satisfactory crops are to be seen; for the most part they are considered light to failures. The malformation so very much in evidence at the close of November is gradually growing out.

In some orchards at **Pinnacle Road** and in the **Borenore** and March portions of the **Orange** inspectorate, considerable damage was caused by hail, otherwise Apple crops generally are good.

There is little change in the outlook around **Batlow.** Growers have reworked many unpopular and unsuitable varieties over to more suitable types, mainly Delicious.

There are good settings of Granny Smith, Jonathan and Tasma in the **Lavington (Albury) district.** London Pippins are medium, Cleopatra and Delicious light to moderate, but there is only a very light crop of Yates. Winesaps promise to yield heavily. The fruit is clean and free from diseases.

Apart from one or two good settings, the Granny Smith crops at **Griffith (M.I.A.)** is light to nil. King David, Jonathan and Cleos. are medium to good at **Yenda,** but the numbers of trees are not extensive. Granny Smiths are poor, but any fruit being carried is sizing rapidly. Around **Leeton,** poor crops are the order; fruit remaining is developing quickly and is likely to be marketed as "cookers" early in the season.

Pears.

The setting of this fruit in the **Northern Tableland** growing areas was disappointing. Williams constitute the heaviest crop; Packham's Triumph, Winter Nelis and Beurre Bosc are only moderate, but should attain good size. Josephines failed to set and the crop is now very light.

Williams also promise best in the **Young** district; Packhams and Josephines and other varieties are light.

In the **Bathurst-Blue Mountains inspectorate** crops are light to medium with some portions a failure.

The setting is reported to be medium to good around Orange.

Williams, Packhams and Winter Nelis are moderate at **Lavington (Albury)** and the setting is good for Josephines.

A heavy shedding of both Williams and Packhams occurred at **Leeton** and reduced crops considerably. Packhams are said to be heavy and Williams medium at **Yenda,** while moderate to good crops are to be seen at **Griffith,** despite a recent drop.

Pome Fruits (Coastal)

Apples.

Light to medium crops of Apples are being carried in growing centres in the **Maitland** district.

Some Allsopps and Carrington trees in the **Wyong** area are carrying a normal quantity of fruit, but late varieties are light.

The good crop of Allsopps is now being harvested in the **Hawkesbury** district and quality is fair. The Carrington variety is also satisfactory, but Granny Smiths are light. Generally speaking, the later varieties are patchy.

The Apple crop in the **Parramatta-Camden** area is reported to be very disappointing. All varieties, with the exception of McIntosh Red, set very poorly. Delicious, it is said, was a complete failure. A hailstorm in the Oakdale locality greatly reduced the prospects of McIntosh Red. Twenty Ounce are being harvested at Camden.

Around **Baulkham Hills,** crops generally are lighter than last season, Carringtons being exceptionally light. Fruit is growing well but Granny Smiths are not developing well in many orchards. At **Glenorie,** a large percentage of the crop is showing hail injury.

At **Windsor,** Carrington and Mobb's Royal are not of satisfactory size and will soon be marketed as early cookers. Where thinning of Carringtons was practised, better sized fruit resulted. In places, Apples are badly marked by hail.

Pears.

Around **Maitland,** crops are light. The setting of China Pears in the Wyong district is again normal. In parts of this area Keiffers are showing an average crop, but in other localities they are light. Generally, Packham's Triumph and Williams are light throughout. Crops in the **Hawkesbury District** are not as good as was previously anticipated. Pears are stated to be very disappointing around **Parramatta,** all varieties setting poorly.

All orchards are reported to be looking particularly well in the Windsor district. Good development is noticeable and yields should be equal to the best of past years. A fairly heavy shedding of Packham's Triumph took place but there is a heavy crop of Keiffers in sight, Williams, also, should be very good.

Stone Fruits (Inland)

Crops of Apricots, Plums, Peaches and Nectarines are light on the **Northern Tableland,** but the fruit should grow well as it is well spaced.

Around **Young,** Plums are moderate to very light, the Narrabeen variety having shed heavily.

Crops of mid and late season Peaches and Nectarines are only light to medium. The Prune crop is heavy at **Kingsvale,** and moderate to light in other centres in the district. Almonds shed heavily but a medium crop remains.

A few good crops of Plums are to be seen in the **Bathurst-Blue Mountains area,** but generally settings are light to medium. Peaches and Nectarines were damaged to a considerable extent by hail and only light to moderate yields are expected. Some failures are reported.

Much hail injury is also apparent in Peach orchards around **Orange,** where generally good crops of this fruit as well as Plums and Nectarines are in sight.

The good crops of Peaches and Nectarines at **Batlow** are not so promising as they were a month ago. Heavy yields of Plums are expected.

Both Apricots and Plums are light in the **Lavington** district, but Peaches generally are good; thinning was rather extensively practised owing to lack of rain and growers are watering trees to ensure size in early varieties.

In the **Leeton and Yenda** sectors, all varieties of canning Peaches continue to grow satisfactorily and the outturn should be excellent. Moderate to good, and in some instances heavy crops, are apparent at **Griffith.**

Only a light crop of Prunes is being carried at **Leeton,** while at **Yenda** the setting is patchy. There are some heavy crops of D'Agens at **Griffith,** and generally they are good; Robes are light with a few satisfactory.

Stone Fruits—Coastal

Plums are light in the **Wyong** area, although normal crops of **Willsons** are to be seen in some centres.

Plum trees are moderately cropped at **Baulkham Hills,** although the fruit is sizing well, maturity is 10 days later than last season. Severe losses through hail were sustained at **Glenorie,** but it is hoped to place a proportion of the damaged Santa Rosas with jam companies. Sales of Jewells are being made to manufacturers. Fair crops of excellent sized Peaches have matured later than usual, but are now being picked. There is a good crop of mid-season varieties and there is every prospect of good quality fruit being obtained.

Citrus—Coastal

In the **Maitland** sector, odd nice settings of Navels and Valencias are to be seen, but dry conditions are causing a heavy fall in places. The setting of Imperial Mandarins is light and patchy.

A profuse blossoming of Navels was evident on trees around **Wyong,** but a heavy shedding has reduced the prospective crop to one of light proportions. A light crop of Valencias and Lemons is apparent throughout the district, but Common Oranges and Sevilles are expected to be normal. A heavy showing of Mandarins is apparent and on present indications production should exceed that of last year.

At **Gosford,** the Navel trees, although they bloomed well, set very unsatisfactorily and the prospects are for a limited crop. Valencias have set well and it is expected a crop comparable with that of this year will be obtained. A very light showing of main crop Lemons is noticeable, but Mandarins have set satisfactorily.

Considerable shedding of young fruit on Navel trees is apparent in **Hawkesbury** district groves. The settings of Valencias, Commons and Sevilles was patchy. Young fruit on Lemon trees shed freely and the main crop is expected to be light. The balance of the intermediate crop is light and the fruit green. Mandarins also shed considerably and only a medium crop is anticipated.

At **Orangeville,** Valencias are holding well, but in the **Parramatta** district generally 75 per cent. has been harvested. The Summer crop of Lemons is mostly poor.

There is every appearance of a good setting of Navels around **Baulkham Hills,** and trees for the most part are in good health. A light showing of second crop Lemons is sizing nicely. A small quantity of late main crop fruit is noticeable in places, but it is oversized and of poor keeping quality.

A heavy shedding of the 1939 crop Navels is said to be taking place at **Windsor,** but this was expected following such a profuse blossoming. Many growers, however, are stated to be apprehensive. Harvesting of this season's Valencias still proceeds, but a large percentage has already been marketed. There has been a fairly substantial fall of new crop fruit, but this apparently is desirable, as bloom was abnormally heavy. Intermediate Lemons are developing well and further blossoming is also taking place.

A heavy crop of Emperor Mandarins is expected to set.

Citrus—Inland

An unusually heavy shedding of Navels is reported from the **Murrumbidgee Irrigation Area,** and on present indications only light crops are likely.

The setting of Valencias is heavier than Navels, but the recent drop will reduce prospective yields. Considerable quantities of the present mature crop have been disposed of on local and New Zealand markets.

Bananas

Generally poor growing conditions were experienced in the **Tweed Heads** district and lighter supplies may be expected from the Lower Tweed. Rain was urgently needed at **Brunswick,** where increased marketings are in prospect for December. The quality of the fruit is fair; however, mixed ripe and blemished Bananas are to be seen and, owing to the dry conditions, filling is unsatisfactory.

Around **Lismore,** crop conditions in the main are satisfactory and there are prospects of medium to good quantities being consigned to market during December. Much ripe fruit is in evidence throughout plantations. Rapid maturing is reported from **Nimbin** and good supplies should be forthcoming.

Passionfruit

Crops are being harvested around **Tweed Heads,** but rain is needed to improve the fruit. Moderate consignments of fair to good quality are going forward to Sydney and Melbourne markets from **Brunswick.** Dry weather is affecting late crops and is causing the fruit to shrivel.

A heavy early Summer crop is now ripening in the **Lismore** district. Some damage was caused by a recent thunderstorm and by wind to vines in exposed places.

Good yields are expected from the Summer crop at **Macksville,** from a limited number of plantations.

An exceptionally heavy crop is in prospect at **Maitland.**

GRANULATED CORK for Fruit Packing

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A fair Summer crop is in sight at Faulkham Hills despite the severe setback to vines caused by frost during the Winter. Some fairly good crops are in view at East Kurrajong.

Potatoes.

Moderately good rains were received in most of the Potato-growing districts of the State and the falls should be particularly beneficial in Tableland districts, where planting is in full swing. Very high temperatures were experienced towards the end of November, which assisted to dry out the soil. Planting is being carried out in main crop districts under fairly satisfactory conditions, especially where proper attention was given to the preparation of the soil. It is considered that the area will be approximately the same as last year. In the New England, particularly good rains were received which should enable growers to plant under very good conditions. Growers in the Maitland and Windsor districts commenced harvesting this month. Although yields are somewhat disappointing owing to the rather erratic season experienced, the quality of the tubers generally is good. Returns of three to four tons per acre appear to be common. Although prices have depreciated somewhat they are still payable, and producers appear to be endeavouring to take advantage of them. The first Potatoes from the Dorrigo were marketed during the month and indications are that this district will enjoy a very good season so far as quality and yield are concerned.

THOROUGH CULTIVATION.

Essential to Moisture Conservation.

CERTAIN BENEFITS are derived from cultivation, but they will not be fully realised unless the operation is thorough and at the right time (states the N.S.W. Dept. of Agriculture).

Just as there is a right and wrong way of cultivating, so also is there a right and wrong time for carrying out the work. There are more or less regularly recurring periods during which the soil rapidly loses its moisture, and it is vitally important at such times to reduce this loss to a minimum, so that the tree may not suffer, especially at those times at which occurs the greatest drain upon its energy, as at the bud-bursting stage.

Soil moisture is often the chief factor controlling the successful production of fruit in this State; therefore, cultivation as a means of checking unnecessary loss of moisture takes a place of major importance amongst the various operations pertaining to fruit growing. Cultivation checks loss in two ways:—

(1) By destroying weed growth which if not suppressed would make use of much of the soil moisture, and

(2) By forming a dry mulch and thus checking direct evaporation from the soil.

A Good Mulch

is one that effectively checks evaporation and which at the same time readily allows rain or artificially applied water to percolate through it and not be lost by run-off. The fact that these qualifications apply just as much to a dry soil mulch as to any other form of mulch should never be lost sight of, and it is because of this that more use of the plough in place of the orchard cultivator is advocated.

Cables—Monro, London Codes—A.B.C. 5th Edition and Bentley's

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Apple Juice

Huge Development in Production on the Continent and England.

THE INCREASED INTEREST which is now being taken in the production of Apple juice is reflected in an air mail report just to hand from the S. Aust. Agent-General and Trade Commissioner in London (Sir. Chas. McCann), this information being courteously supplied by Mr. G. A. W. Pope, general manager of the South Australian Government Produce Department.

Sir Chas. McCann writes as follows:—

"There has been a rapid development in the production of Apple juice. America, Germany, and Switzerland have been exploiting this industry for some years with great success. The drink has become increasingly popular from year to year and it is estimated that in Germany this year the production will amount to several million gallons.

"Most countries that have successfully established this industry began in the early stages of production of Apple juice by using culled and reject type of fruit, but the demand for what is claimed to be an extremely healthful and non-alcoholic beverage has become so great that all types of Apples are now used. It is estimated that nearly 3,000 German State-inspected small factories are in existence to-day, and the demand for the drink has become so great that Apples are being imported, mainly from the Balkan States to supply the demand.

"I understand that prices paid last year for Apples by factories worked out at about £7 per ton. The Apples were shipped in bulk just as cider Apples are handled. I am assured that this year the price will be increased to approximately £10 per ton. Government assistance has largely assisted the development of the Apple juice industry in Germany, and rigid inspection and fixation of price has done much to standardise the quality.

"During the last few years a considerable amount of attention has been given to the development of the industry in England, Bristol being the chief centre of production. Just recently a few English experts spent considerable time in Germany thoroughly investigating German methods. With a view of obtaining further information for South Australian fruitgrowers, I have made arrangements to inspect some of the factories now manufacturing near Bristol, and I hope at a later date to be able to report more fully upon this very interesting development which would appear to have possibilities of solving the question of the more profitable utilisation of windfalls and other reject Apples."

A fussy old lady, buying seeds, pressed the long-suffering shop assistant. "These hollyhock seeds—er—do they take long to come up?"

His reply was quick and to the point. "Madam," he said "you just drop the seed in the hole and then jump clear?"

PATENTS
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PATENT ATTORNEY
"HEATY HOUSE." 499 LITTLE COLLINS ST. MELBOURNE.

South Australian News and Notes

INCLUDING OFFICIAL NOTES AND REPORTS FROM THE SOUTH AUSTRALIAN FRUITGROWERS' & MARKET GARDENERS' ASSOCIATION.

The South Australian Fruitgrowers' & Market Gardeners' Association Incorp.

THE December meeting of the Executive Committee was held in the Board Room on Friday, December 16, 1938, at 10.30 a.m.

Mr. W. J. Bishop (President) presided over the meeting, which was attended by Messrs. G. H. Schultz, A. E. Brealey, C. Ridley, F. F. Redden, R. Hannaford, J G. Potts, F. Hughes, G T. Pitt, H. N. Wicks, F. A. Wicks, J. Turner, L. J. Wicks, H. B. Robson, J. B. Randell, E. L. Giles, S. M. James, M. J. Vickers, N. T. Hobbs, G. Jennings, C. W. Giles, A. G. Strickland and Secretary.

Apologies.—Mr. C. Stanford, H. W. Parsons.

Minutes as sent out taken as read and confirmed.

Correspondence. — Messrs. N. Makin, A. J. McLachlan, G. McLeay, A. G. Cameron, J. L. Price, K. C. Wilson, F. H. Stacey, M.H.Rs., relative to National Insurance, and enclosing copies of letters received from Hon. R. G. Casey on the matter.

The Wholesale Fruit Merchants of Adelaide Ltd., concerning the erection of a proposed tablet to the memory of the late Mr. H. J. Bishop.

Torrens Valley A. & H. Society soliciting assistance for their Annual Show to be held February 11, 1939.

Town Clerk of Adelaide advising inability to have weights and measures stamped in Association offices.

H. De Couter, London, reporting on possible market expansion for Apples on the Continent.

Export Sugar Committee re Export Sugar Rebate.

Fruit Industry Sugar Concession Committee advising minimum prices fixed for canning and jam manufacture of fresh fruits.

Commissioner of Public Works re water.

The correspondence was received and dealt with.

H. J. Bishop Memorial.—The President reported that he, and Messrs. G. J. Strange and H. N. Wicks had represented the Association at a meeting convened by the Merchants' Association, and it was decided to erect a tablet in memory of the late Mr. H. J. Bishop. Individual donations were invited, and collection books had been issued to the six organisations represented at the meeting.

Torrens Valley Show.—Mr. F. Hughes moved "That a donation of £1/1/- be granted the Torrens Valley A. & H. Society. Seconded Mr. L. J Wicks. Carried.

Weights and Measures.—Mr. L. J. Wicks moved "That the Dept be written further, reiterating the difficulties experienced by growers with big lorries having to take their weights to the Town Hall, suggesting the Association offices as a depot from which weights could be forwarded to the Dept. for stamping in bulk, and if impossible to meet us in this way, a parking area be made available for lorries in the vicinity of the Town Hall." Seconded Mr. J. Turner. Carried.

Sugar Concession Committee. — Mr. L. J. Wicks moved, seconded Mr. J. Turner, "That Secretary write the Sugar Concession Committee pointing out that as S.A. is an early State with Pears, and Pears from the River Settlements will be on the local markets the 2nd week in January, earlier advice of prices fixed for canning purposes would be appreciated." Carried.

De Couter.—Mr. C. W. Giles moved "That letter be handed on to Apple and Pear Section." Seconded Mr. J. Turner. Carried.

The President congratulated Mr. A. G. Strickland on his coming trip to the United Kingdom when he would study the marketing of Australian fruit.

Crop Prospects.—Mr. Strickland thanked the meeting for their kind wishes, and trusted that his investigations would be of great benefit to growers in this State.

He then proceeded to give a resume of crop prospects in South Australia (a detailed report is published elsewhere in this issue).

Growers' Selling Rights in Markets.—A study of the Private Act relating to Markets revealed that growers were at liberty to sell any form of agriculture, garden, farm and dairy produce in the makets, no minimum quantity being stipulated.

Use of Manure Bags.—Mr. L. J. Wicks reported that the Sub-Committee appointed to deal with this matter had met the Metropolitan County Board, who were appreciative of the difficulties confronting growers, and would investigate the regulations with the view of having bags of inorganic nature removed from the prohibited list.

Sectional Reports.—Reports on their various activities were received from the Tomato, Soft Fruits, Apple and Pear, Cherry and Potato Sections.

A report from the Society was also received. The Society had been appointed as sole distributors in Australasia for the "Wicks Patent Mastergrip Handle," and recommended same to all members.

Finance.—The financial statement was adopted and A/cs. passed for payment.

Questions. — Questions concerning pests and means of combating them were answered by Mr. A. G. Strickland, Chief Horticulturist.

Containers.—A discussion arose on the sale of containers with fruit and the Secretary advised that the Merchants' Association had not yet met the Sub-Committee appointed at last meeting.

The Chairman closed the meeting by wishing all a Merry Xmas and a Happy and Prosperous New Year.

"Wicks" Patent Master Grip Handle

A UNIQUE INVENTION FOR THE HARVESTING OF SOFT FRUIT.

WE illustrate on our front cover this month a new invention, known as the "Wicks" Patent Master Grip, of momentous importance to the fruit industry.

The Wicks Patent Mastergrip Handle is the invention of Mr. L. J. Wicks, of South Australia, who is a well-known nurseryman and orchardist of that State, and although in its finished state the handle appears to be simplicity itself, it is really the result of several years' experiment and testing. The idea of a quickly detachable spring handle to convert the half bushel case into a convenient picking container was first used by Mr. Wicks in his orchard in 1937. Although the handles used were clumsy and involved the use of both hands to attach and detach, and if not carefully put on were liable to slip and spill the fruit, they were used right through the picking season, and proved that they were real labor savers and money makers.

With the approach of the 1938 fruit season Mr. Wicks spent a great deal of time and patient experiment in evolving a clip that would fulfil all requirements, never slip, be absolutely fool proof, last, and give service indefinitely, and at the same time be capable of manufacture and sale at a price so reasonable that no fruitgrower could afford to be without at least one for every person who picks his fruit.

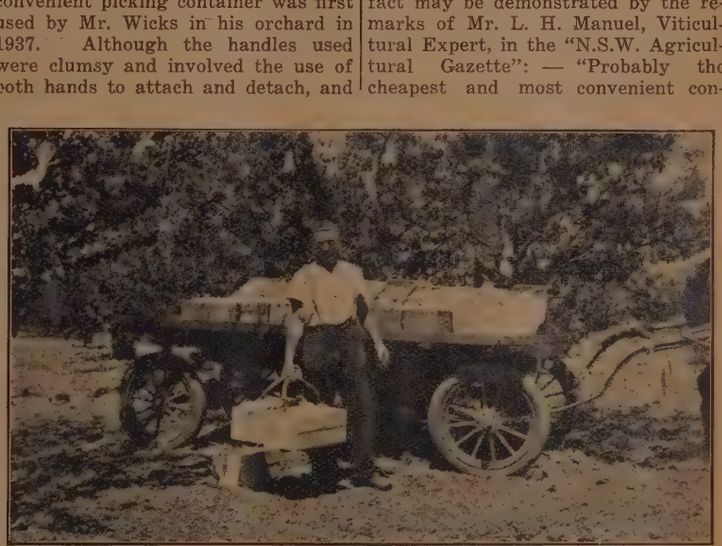
The instant approval and success that has been accorded the handle in the Adelaide fruit markets are themselves sufficient recommendation, as it is very doubtful if a more keenly critical and intelligent set of fruitgrowers could be found gathered together anywhere in Australia than the growers who do their own selling in the East End Markets of Adelaide.

On a casual examination the handle appears extremely simple, but when it is remembered that the two clips are made of high qualtiy spring steel, carefully tempered to last indefinitely and retain their tensions through years of service, one can readily understand that considerable difficulties had to be overcome and expensive machinery used before they could be manufactured and offered to the user with absolute confidence that they would stand up to everything that was asked of them.

Enables Half Bushel Case to be Used For Grape Picking.

The fruit may be picked straight into the marketing case; it is also ideally suited for the harvesting of Grapes, eliminating the possibiltiy of damage to the fruit from chemical action which may occur when juices come in contact with metals. This fact may be demonstrated by the remarks of Mr. L. H. Manuel, Viticultural Expert, in the "N.S.W. Agricultural Gazette": — "Probably the cheapest and most convenient containers for use during the Grape-picking period are four gallon petrol tins. Unfortunately, these tins rust and particles of rust eventually find their way into the fermenting tanks along with the crushed Grapes or juice, and come in contact there with the fermenting juice or must, and later, the wine.

It has been found that a certain disorder known as "Blue Casse" is



Picking Apricots in the orchard of L. J. Wicks, Highbury (S.A.), where "Mastergrip" handles have been in use for two years.

INSURANCE

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Recommend that Growers avail themselves of Insurance benefits with

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A. STUART, Secretary.
F. & M.G. Society Ltd.

caused by an excess of iron. A very small amount of iron in excess will cause trouble, particularly in white wines, should they when aerated (as is done during the process of racking), become cloudy, and although the wine may later become somewhat bright, the cloudiness is likely to recur. The grower should therefore endeavour to assist the winemaker in preventing an excess of iron contaminating the wine.

The Viticultural Branch of the Department carried out some tests with enamel and aluminium paints, and it has been found that rusting can be prevented and the life of the tins lengthened by painting the inside of the tins with a good quality enamel. Cheap enamel is not satisfactory, and any substance which is easily affected by the acids in the Grapes should be avoided."

This extract serves to demonstrate that there could be no more suitable picking container than the half-bushel fruit case, which has practically the same capacity as a petrol tin, and is always easily obtained, and being of wood avoids the disadvantages mentioned in the above.

Mr. Wicks has quite a number of patents to his credit. In 1909 he patented a machine for packing fruit trees, and many of these machines are still in use in the largest nurseries of Australia and New Zealand. In 1911 he patented the first orchard harness to be used in Australia, manufactured at that time by Messrs. Holden & Frost, it is to-day in various modified forms in use in thousands of orchards in Australia. Other patents range from butter churns to attachments for tractor plows.

In the nursery sphere Mr. Wicks is well known as the only propagator in quantity of budded Walnut trees, and he has for years specialised in growing such difficult nursery lines as budded Persimmons, Olives, Black English Mulberries, and Standard Roses.

Asked how he came to think of the present invention, Mr. Wicks remarked that it was jsut one of the penalties of being unable to sleep.

Illustrating the ease with which the Wicks' Mastergrip handles may be used.

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Tomato Culture

SPRAYING TO CONTROL INSECT PESTS AND FUNGOID DISEASES.

THERE IS NOW SUBSTANTIAL production of Tomatoes in Queensland. Referring to cultural conditions in the Central district, where there is increased pest and disease incidence in December, the "Queensland Producer" writes as follows:

Tomato Mites and Corn Ear Worm.

Tomato mites spread rapidly as the warm weather approaches, and quickly cause a dying back of the foliage from the centre of the plant. Loss of foliage exposes the stems and the fruit to the hot sun with harmful results.

For the control of the mite the plants may be sprayed with lime sulphur at a strength of one in eighty.

Alternatively, a dust composed of flowers of sulphur and a good quality hydrated lime in the proportion of 1:1 can be used. If mites already are numerous on the plants, spraying is preferable to the dusting. However, if the plants are treated with a sulphur—lime dust from the seed-bed onwards, a satisfactory control of the mites will be obtained.

Damage by the Corn Ear Worm also increases rapidly in the Spring, and may be the cause of heavy losses of fruit if not checked at an early stage. **Lead arsenate is the most reliable insecticide for this pest,** and may be used as a spray or dust. A suitable spray can be prepared by adding 3 lb. of lead arsenate to 100 gallons of water and including a spreading agent. If mites are troublesome at the same time, colloidal sulphur may be included with the lead arsenate. As a dust, the lead arsenate is used diluted 1:1 with either a good quality hydrated lime or sulphur, the latter dilutent having the additional advantage of controlling the mite. Lead arsenate leaves an objectionable spray residue, and should not be used after the plants have commenced to fruit. Constant attention to the control of the Corn Ear Worm up to this stage, however, gives an excellent chance of a reasonable crop.

Leaf Diseases.

Leaf diseases and Black Spot on the fruit frequently appear as the plants age and lose their vitality. Correct manuring, cultivation and pest control all help considerably to prolong the life of the plant.

When the fungicide is necessary, either a Bordeaux spray or a copper dust may be used to hold the diseases in check. To control pests and diseases with a combination spray, lead arsenate and a colloidal sulphur preparation may be added to the Bordeaux. Lime sulphur cannot be included in sprays containing either lead arsenate or Bordeaux, as such mixtures are liable to injure the plants.

Various proprietary dust mixtures containing lead arsenate, sulphur, and a copper compound are marketed for the purpose of controlling pests and diseases in one operation.

Fertiliser Stimulates New Growth.

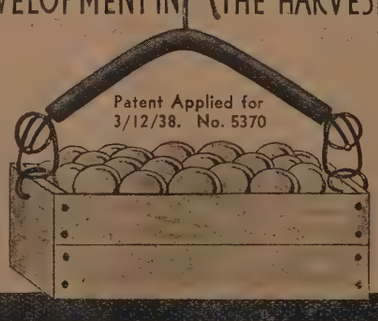
Old plants may be cut back profitably. If the root systems are reasonably sound and a bunch of fresh growth is shooting from the main stem. If excessive, this flush of new shoots may be thinned lightly. Severe thinning is undesirable, as it is necessary to retain sufficient foliage to keep a reasonable balance between the root system and the parts of the plant above the surface.

A handful of a 4:11:10 chemical fertiliser, containing sulphate of ammonia, superphosphate, and sulphate of potash, should be applied to old plants and backward young plants, in order to stimulate new growth and blossoming. When the first fruit has set, a dressing of 50-60 lb. of sulphate of ammonia per acre will help to keep the plants moving.

WICKS Patent MASTERGRIP HANDLE

A SENSATIONAL DEVELOPMENT IN THE HARVESTING OF SOFT FRUITS

One handle per man, turns all your cases into perfect picking bags.



Patent Applied for 3/12/38. No. 5370

Distributors:
Fruitgrowers' & Market Gardeners' Society Ltd.
288A Rundle Street
Adelaide
South Australia

The South Australian Fruit Marketing Association Inc.

Executive Committee.

MINUTES of monthly meeting held at the Secretary's office, Grenfell-street, Adelaide, on December 16, 1938.

Present: Messrs. M. G. Basey, R. G. Hannaford, R. O. Knappstein, A. O. Petersen, A. G. Strickland, H. N. Wicks, J. B. Randell, W. W. Millar, F. F. Redden, F. B. James, A. R. Willsmore, J. Mack, S. M. James, M. J. Vickers, C. Stewien, R. H. A. Lewis, P. R. B. Searcy, and the Secretary

Apologies: Hon. T. Playford, Messrs. C. L. Winser, A. Brealey.

Chairman: The President, Mr. J. B. Randell, occupied the chair.

Late H. J. Bishop: On the motion of Mr. P. R. B. Searcy, seconded by Mr. H. N. Wicks, it was unanimously resolved: "That the photograph of the late Mr H. J. Bishop should be hung in the Secretary's office."

Correspondence: Letter dated December 8, from the S.A. Fruitgrowers' and Market Gardenres' Association advising that Messrs. M. J. Vickers, F. B. James, A. E. Brealey and R. L. Hannaford, had been appointed as their representatives of the Australian Markets Committee

Replies were received to our letter re exemption of primary producers from the operations of National Insurance Scheme from Hobart Fruit Shipping Agents Committee; State Fruit Board, Tasmania; Committee of Direction of Fruit Marketing, Brisbane; Victorian Fruit Marketing Association.

Letter sent to the Minister for Commerce and members of the Senate and House of Representatives re National Insurance and Anglo-American Trade Treaty. Replies were received from Sir Earle Page, Minister for Commerce, and Messrs. J. L. Price, G. McLeay, K. C. Wilson, F. H. Stacey, N. Makin, O. Uppill.

Letter from Dept. of Agriculture dated December 9, enclosing copy of statement relative to fruit crop prospects in this State.

Letter from Dept. of Agriculture dated December 14, enclosing copy of letter from Consolidated Fibre Products Ltd., Melbourne, re moulded fruit pads.

Letters from Australian Apple and Pear council dated:—

November 24, enclosing copies of trade enquiry, letters from Switzerland and Malta and extract from Ceylon Government Gazette, concerning the regulation re importing of fresh fruit into Ceylon.

December 2, advising that 20 copies of folders containing particulars of sales development for Apples and Pears, received through the Dept. of Commerce from Mr. A. E. Hyland, Australian Publicity Director, and advising that additional copies could be obtained if required.

It was agreed that the Secretary ask for additional copies as it was considered that the matter could be advantageously distributed in the State.

December 8, acknowledging receipt of letter re W.B.C. and Lemon Bergamot Pears and advising that the matter would be brought before the Executive meeting in Sydney, commencing December 19.

December 8, advising that copies of the Apple and Pear Control Act were not yet available.

December 8, acknowledging receipt of Apple space requirements for 1939 season.

December 13, acknowledging receipt of correction in application for W.B.C. Pears.

Membership: Applications for membership were received from the following:—Messrs. A. A. Magarey (Blackwood), N. T. Hobbs (Paradise), A. C. Bourne (Houghton), L. D. Cornish (Forreston), H. J. Manning (Willunga), W. W. Pounsett (Coonawarra), L. P. Ross (Williamstown), A. E. Marr (Williamstown), E. F. Mason (Clarendon), R. M. Obst (Winabara), J. Turner & Sons (Blackwood), F. A. Smart (Kangarilla).

The applications were approved and the names placed in the Register of Members.

Research Sub-Committee: Mr. H. N. Wicks reported that advice had been received from the Royal Agricultural Society that the Orient Line were discontinuing the donation of a cup for export Apples at the Royal Show. He had been asked by the Royal Agricultural Society to bring forward the suggestion that this Association should donate an annual prize to take the place of the Orient Cup.

The Research Sub-Committee had received the suggestion favorably, and they recommended that a Sub-Committee consisting of Messrs. H. N. Wicks, M. G. Basey, and A. O. Petersen be appointed to consider the matter and draft proposals for submission to the next monthly meeting on January 27, 1939.

On the motion of Mr. P. R. B. Searcy, seconded by Mr. R. O. Knappstein, it was resolved: "That the Sub-Committee be appointed to draft proposals for submission to the next meeting."

Late H. J. Bishop: Mr. Randell reported that he had attended a meeting of representatives of six or seven associations connected with the fruit industry, and that it had been agreed to raise funds to enable a memorial to the late Mr. Bishop to be placed in the Market.

Members were unanimously in favor of suggestion and it was resolved: "That the Association contributes its due share to the cost of the memorial," and the matter was left in the hands of the President to finalise.

A. G. Strickland: The President, on behalf of members, congratulated Mr. Strickland on being appointed by the Government to visit the United Kingdom to study conditions in connection with the selling of Apples and Pears in England.

Land planted to Maize or other crops tends to erode more than 100 times as fast as land planted to grass and other cover crops, the Pennsylvania (U.S.A.) Soil Conservation Board reports.

Mid-Murray Notes

RESEARCH WORK AT MERBEIN — INVESTIGATIONS BY NEW OFFICER AT GRIFFITH — SOIL EROSION ON THE WATERSHEDS — LESS WATER NEEDED IN IRRIGATION — OIL SPRAYING TO DELAY BUD-BURST — REVOLUTION IN COLD DIPPING — EXPERIMENTS WITH SULPHATE OF IRON SPRAY — COMMUNITY HOTEL.

Renmark, December 12.

THE HALF-YEARLY MEETING OF THE ADVISORY COMMITTEE to the Commonwealth Research Station at Merbein, working under the direction of the Council for Scientific and Industrial Research, took place on Tuesday, December 6, and was attended by a full Committee comprising D. C. Winterbottom (chairman), J. R. S. Lockhead (vice-chairman) (representing Shire Council), A. V. Lyon, Chief Officer in charge of the Merbein Research Station; S. Heaysman (Coomealla), S. Taylor (Curlwaa), W. Heaysman (Cardross Progress Association), Alex Lockhead (F.M.I.T.), A. R. McCouchie (district officer S.R. and W.S. Commission), A. E. Cameron (Mildura Citrus Association), R. C. Polkinghorn (Woorinen C.S.I.R.), A. C. Ingerson (C.S.IR.), O. Weste (Renmark, South Australia), L. S. Andrew (Waikerie, S.A.), P. T. Byrnes (Woorinen, Vic.) There were also present Dr. Richardson, Deputy Chief Officer of the C.S.I.R., and Mr. H. Hanslow, Commissioner of the State Rivers and Water Supply Commission.

A view of a section of the vineyard and distillery of Renmark Growers' Distillery Ltd.

(Photo., Reiher's Studio, Renmark, S.A.)

Mr. D. C. Winterbottom, in welcoming members, gave a special greeting to two new members who took their seats for the first time—Messrs. Byrnes (Woorinen), and Heaysman (Coomealla), and suggested that the next half-yearly meeting might be held at the Waite Institute (S.A.), because of its close association with this research station.

Mr. Lyon reported the addition of two young research officers to the C.S.I.R. staff. Since the last meeting Mr. P. Dixon, a Science Graduate from New Zealand, and Dr. Joan Hearman, a plant physiologist from Western Australia, who has taken up her duties at the Griffith Research Station. Dr. Richardson said that Miss Hearman had shown a special aptitude for research work, having obtained very satisfactory resuults with the treatment of young pine trees in Western Australia, with the aid of zinc sulphate sprays, and had worked out an original technique by personal observation, which showed her to be specially adapted for the work she had undertaken. Since joining the staff of the C.S.I.R., Dr. Hearman was given a free hand to select the locality in which to work at the commencement of studies on citrus trees. After a survey of the most pressing problems in sight, she decided to commence work at Griffith, N.S.W., at which place she has been attached since her appointment. It was now the desire of the Executive of the C.S.I.R. to appoint a second plant plant physiologist as an understudy to Dr. Hearman so that the citrus problems in Victoria and South Australia could be dealt with.

The C.S.I.R. had been approached to make a soil survey of the Wakool area, in view of the fact that some 6,000 acres of land would shortly be brought under irrigation for the purpose of fodder conservation, and fat lamb raising. The area will be devoted exclusively to the growing of fodders. Dr. Richardson said that in the light of experience in soil survey work, the quickest work could be done my aerial photographs, which showed every variation like a mosaic in soil

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character, and could be interpreted by the soil scientist with unfailing determination. There were 60,000 acres under consideration, and each landholder was to be allowed sufficient water to irrigate one-tenth of his holding. This would mean irrigating a new area of 6,000 acres. By making an aerial soil survey it is possible to pick out the best part of each man's holding for irrigation. Repeating the costly mistakes which had been made in other irrigation areas should be obviated by first making a comprehensive aerial soil survey.

Commissioner Harold Hanslow, of the State Rivers and Water Supply Commission, introduced the matter of soil erosion in the watersheds of the Murray and Murrumbidgee, and appealed to the C.S.I.R. for their close co-operation and help. **Mr. Hanslow said that in the course of his duties he had had occasion to visit the areas in question, and was appalled at the rate with which the erosion was taking place.** Timbers had been removed which should have been left, and overstocking had taken place to such an extent that the heavy rains caused washaways twenty feet deep and forty feet wide. The soils from these scoured hillsides was carried down into the storage basins of the Murray and Murrumbidgee and brought about a serious siltation. The Soil Erosion Committee's report had not yet brought about remedial measures. **Commissioner Hanslow believed that unless something was soon done from a national viewpoint, it was probable that during the lifetime of the present generation, there would be grave consequences to the effectiveness of the storage waters of the Murray and Murrumbidgee.**

The following resolution was passed: "That this committee views with grave concern the effect of erosion in the siltation of reservoirs, and restriction of water storages, and requests the executive committee of the Council for Scientific and Industrial Research to make the necessary arrangements with all authorities concerned to commence remedial measures."

Mr. M. C. Conchie, of the S.R. & W.S., gave a very enlightening report on irrigation and drainage in the Mildura district. The quantities of water used at each irrigation and the amount carried away by the drainage pipes were measured and it was found that in most cases **from 25 to 30 per cent. of the water applied to the land was carried off in the drainage pipes.** In the light of these figures it is quite possible, Mr. McConchie thought, to visualise a new technique in irrigation practices being developed. Not only do the drainage pipes carry off about one quarter of the water applied, but it must also be recognised that a very large portion of the most valuable soil ingredients (the nitrates) are also carried away in this water. The average amount of water applied per irrigation in Merbein was 6½ inches, and in Red Cliffs was 6¼ inches. Although the River had ceased to flow at Mildura, it was estimated that sufficient water was in sight for the irrigation requirements of the Mildura settlements up to the end of March without any additional rain.

Capt. Halhed was introduced to the meeting and approached Dr. Richardson, on behalf of the Citrus Association, with a view to enlisting his sympathies for the study to be made of problems confronting the citrus industry in Merbein area. Many trees were dying and others were becoming unproductive. The problem was one for a qualified research worker and he hoped the matter would receive some consideration. Dr. Richardson replied that he was fully seized with the position and indicated that as soon as a qualified plant physiologist could be found an appointment would be made.

Mr. Lyon reported that in connection with drainage matters in South Australia, work had come to a temporary halt pending further action by the Public Works Standing Committee, but that in a report issued by that body the following extract is given:—

(1) "The Committee recommends the installation of a temporary pumping plant, together with the necessary plant and equipment for the purpose of draining Puddletown Lake at an estimated cost of £2,386."

(2) "That the Committee's co-operation of the C.S.I.R. be invited in respect of all further investigations into drainage problems of the Upper Murray irrigation areas.

Mr. Lyon pointed out that although it has repeatedly been demonstrated from experiments carried out by his staff that growers are using too much water, it was regrettable that the recommendations had not always been carried out.

Mr. Heaysman brought up the matter of **irrigation at bud burst**, saying that Sultana vines irrigated while in the early stage of development (at bud burst) had shown many bare patches along the canes and the buds which had not burst could easily be rubbed off. He wanted to know whether this characteristic was peculiar to an irrigation at that particular time.

Mr. Lyon said that an early pre-bud-burst watering had shown a 62 per cent. bud burst, but that **a delayed irrigation showed only a 55 per cent.** If the vines were dry at bud burst it might materially interfere with the number of buds which burst.

Mr. Alex. Lockhead claimed that a young set of growers had followed a line of action which had given good results. This school of thought favored omitting the Autumn irrigation but planted the cover crops in early Spring with the first irrigation.

Mr. Grundy, of Nyah, brought up the matter of spraying vines with oil for the purpose of delaying bud burst so as to miss the frost period. Sultana vines, he said, sprayed with linseed oil had rotted the canes, but those sprayed with white oil emulsion had shown no ill effect.

Mr. Lyon reported that the oil companies had claimed that they could supply oils to accelerate or retard bud burst, but as the matter was still in an experimental stage, he could not say at present whether this claim could be substantiated.

Various members of the staff gave an interesting account of their activities covering the last year's work with the Research Station. Messrs. D. Walter and S. Tisdal, Dixon and Orton dealt with their work in different spheres, Mr. Walter covering the work at Nyah and Mr. Tisdal spoke about drainage and irrigation work. Mr. Dixon (a recent arrival from N.Z.) was working on the problem of nitrate assimilation of the vine, and Mr. Orton chiefly dealt with the processing of Sultanas.

The introduction of a wetting agent in the form of potassium olienate or ammonium olienate will revolutionise the cold dipping process. Whereas it now takes about three minutes to adequately dip Sultanas, the discovery by Mr. Orton of incorporating a wetting agent into the cold potash dip will cut this time down to about five seconds. And so we find the scientist ever ready to come to the assistance of the man who is battling to wrest a living from the land.

Spraying Pear Trees.

In last month's notes I mentioned having sprayed two Pear trees with a solution of 5 per cent. sulphate of iron. At the time the notes were written the trees were looking better.

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but have now gone back and are looking a bit sick. Although this may have been caused by a concentration too severe, yet on the other hand it may prove that iron is unsuitable as a spray solution to cure yellowing of leaves. Much more promising results have been obtained on vines by spraying with zinc oxide. Vines treated in this way have responded with new vigorous growth of a dark green nature, whereas the untreated vines are still showing a characteristic resembling "Little Leaf."

Effect on Currants.

Currant vines thus affected have only small leaves, and these are a greenish yellow in color, and sometimes a decided yellow all over. This condition affects the vines to such an extent that little crop is produced on them. One vine with a butt two inches in diameter was so badly affected that it was not worth while cincturing. Since being sprayed with zinc oxide it has thrown out new growth and is a darker green than any of the other unsprayed vines.

Mr. Roy Millar, on whose property this experiment was made, is enthusiastic over the result. Vines treated with iron sulphate application to the soil have improved in growth formation, but still lack the deep green coloring in the leaves which characterises the zinc oxide spray experiment.

Growers' Distillery Meeting.

The annual meeting of the Renmark Growers' Distillery Ltd. was held on December 9, and was presided over by the Chairman, Mr. D. T. Du Rieu. The balance sheet showed the company to be in a strong financial position.

In dealing with the future of the wine industry the Chairman indicated that owing to the statistical stock position the industry was in for a difficult time, but owing to the policy adopted by his Society of building up reserves over the past years, the company was in a position to meet competition as well as any Society of its kind. For the coming vintage his company was prepared to take all the Grapes offering by its shareholders, for which they would receive the Government fixed price. Election of four members for the Committee resulted in Messrs. D. T. Du Rieu, H. E. Edmonds, R. Fisher, A. Philpott being returned, thus showing a confidence in the present management by returning the old committee. The three sitting members who were not up for election are Messrs. H. Eaton, F. Hooper and O. Weste. Mr. Du Rieu had the signal honor of recording a vote from every member present—an honor which has not previously been recorded.

Community Hotel.

We in Renmark are particularly proud of our Community Hotel, a hotel which devotes all its profits to the welfare of the community. The institution which benefits most from the disbursements of revenue is our district hospital, and from funds received have been able to instal modern equipment to relieve the sufferings of its inmates. Next in importance comes the needs of educational bodies, who receive substantial yearly amounts. The Town Council and Irrigation Trust receive very acceptable financial gifts to beautify the town and surrounding countryside. Unemployment relief also receives consideration, and, in fact, no deserving public body is forgotten in the distribution of its profits, which amounted to more than £10,000 during the last year's business transactions. So great has been the pressure of the tourist business that 35 additional bedrooms have just been erected, while the whole ground floor has been reorganised.

The cost of the recent building programme has been about £25,000, and the Committee of Management now hope that the present premises will suffice for many years to come.

RENMARK FRUITGROWERS CO-OPERATIVE

THE ANNUAL MEETING of shareholders of the Renmark Fruitgrowers Co-operative was held on Tuesday, December 13. Mr. H. D. Howie (Chairman of Directors) took the chair, and presented the balance sheet, which showed a very healthy tone. On a motion from the body of the hall it was resolved to recommend that 8 per cent. be paid on all share capital. Mr. H. Edmonds though that a lower rate of interest would be preferable so as to enable the company to place a greater amount to reserves. On the motion being put it was agreed to without dissent.

It was resolved to place the sum of 12/6 per ton to reserves to strengthen the Society to enable them to take a "kick" in the event of experiencing difficult times.

The election of officers resulted in Mr. Alexander getting 103 votes, V. Whallin 102, W. Bryson 95, T. Spurling 85, F. Storey 54. Four members being required, Messrs. Alexander, Whallin, Bryson and Spurling were declared elected. As this constituted the old committee, full confidence was shown in its stewardship. The other members of the committee are Messrs. H. D. Howie. C. S. Ruston, R. V. Kemp.

Prizes for Best Fruit.

A feature of the annual meeting lies in the speculation as to who will get the two guinea prizes awarded for the delivery of the best dried fruit for the season The Apricots prize was allotted to Mr. A. E. Elston, Pears, Mr. A. E. Johns, Peaches, Mr. R. Fisher; Nectarines, Mr B. Geneste; Sultanas, T. M. Pethick; Currants, A. E. Paetsch; Lexias, E. A. Little.

Mr. Howie gave a resume of the dried fruits position from a wide angle, embodying every producing country, and said that a certain amount of uneasiness was evidenced in buying circles in the United Kingdom prior to the revision of the Ottawa Agreement. However, as soon as it was made known that no alteration in existing duties occurred, a better tone prevailed. Mr. Howie said that the dried fruits industry was indebted to Mr. Bell and Mr. Frank McDougall for the work they put in on its behalf. It was mainly due to their efforts that no alteration was made. A revision of the treaty with Canada on dried fruits might have led to serious consequences, as Canada is a valuable customer. Mr. Howie believed that the adoption of dried fruit classes appointed by the Government as was done in Mildura last year, would do away with packing house competition on a grade basis. It was to be tried in Renmark this year owing to the success achieved by the Victorian settlement.

Mr. Carne (manager) said that last year's pack was the biggest in the history of the company, and because of this big pack it was possible to cut down packing charges in spite of the fact that timber was up in price, and wages were higher. A cut in packing costs was only possible by handling a large pack. He appealed to growers to be loyal to the co-operative principle in spite of tempting offers made in other places. It must not be forgotten that the whole of the receipts (less costs) was returned to growers and shareholders.—"Nemo."

Fruit Crop Prospects in South Australia

APPLES BETWEEN 500,000 AND 600,000 CASES — PEARS 250,000 — APRICOTS, PEACHES AND PEARS LIGHTER.

(Compiled by A. G. Strickland, M.Ag.Sc., Chief Horticulturist, Department of Agric., Adelaide.)

SEASONAL conditions have been generally favorable to fruit trees and vines, although sub-normal rainfall has occasioned difficulties with cultivation in some non-irrigated districts. The comparatively dry Winter and very dry Spring also caused fruit trees and vines in non-irrigated districts to show slight signs of dryness. On the other hand, the dry Spring has been unfavorable to the development of fungus diseases, and **trees and vines are particularly free from disease.** Damaging Spring frosts have not been experienced over extensive areas as in some recent years, but in certain districts, vines and tree fruits have sustained serious damage. Light frosts or freezes are also considered responsible for widespread malformation of Apples of certain varieties.

Apples.

Despite the fact that the current season is the "off" one in all but a few Apple districts, blooming was moderately good throughout the State as a whole. This early promise of an abnormally good "off" season crop was not realised, as setting was bad except in "out of step" orchards.

In some areas, Spring frosts destroyed a proportion of the potential crop, and certain varieties—more particularly Granny Smith and Cleopatra have been malformed by low temperature. A percentage of the harvest will be so malformed as to be unsuitable for export. It is impossible to estimate the extent to which the low temperature malformation will affect export quantities. At the time of flowering of late-blooming varieties such as Rome Beauty, thrips had increased in number sufficiently to give rise to concern. In certain districts, the poor setting of Rome Beauties can be probably attributed in part to thrips injury.

In the Mount Lofty Ranges, where the large bulk of Apples are grown, **Jonathan, Cleos., Dunn's,** and **Stone Pippin** are patchy; **Romes** are showing heavier crops, and this variety should be prominent in export.

In northern districts, crops are generally better than expected, following the heavy 1938 crop, and a 60 per cent. normal crop is anticipated.

On present indications, the 1939 Apple harvest in South Australia will be less than half of the 1938 crop, and should range between 500,000 and 600,000 bushels.

Pears.

In Hills districts, Pear trees behaved in a similar manner to Apples, blooming well, but shedding heavily. Light to medium crops of **W.B.C.** are expected in the Mount Lofty Ranges, whilst other varieties should return fair crops. Under irrigation in the Murray Valley, **W.B.C.** promise average crops. Production of Pears for the State should be in the vicinity of 250,000 bushels.

Apricots.

Apricot crops are variable. In the irrigated areas, prospects are for a very light crop, particularly of Moorparks. Estimates vary from 40 per cent. to 60 per cent. of a full crop, according to district.

Peaches and Nectarines.

Good yields of these fruits are expected, although continual dry weather is a matter for some concern in non-irrigated districts. In the Lower North, **Clingstones** show heavy, and **Elberta** medium crops; the expectation on the Adelaide Plains is 5-10 per cent. below average, whilst in the Murray irrigation areas, normal crops are in sight.

Plums and Prunes.

Plum prospects are for fair to good crops. In the Mount Lofty and Southern districts, Prunes set well. In the lower north, European Plums are generally light, and Prunes are fair. Crops on the Adelaide Plains are 10 per cent. below average.

Citrus.

Heavy blooming of citrus trees occurred in all Murray Valley districts and crops at least equal to 1938 returns are anticipated. On the Adelaide Plains, prospects are from light to fair.

Crops still have to thin naturally through dropping, and estimates at this stage are not possible.

Grapes.

In nearly all districts, vines have made excellent growth and have set well. Vines are remarkably free from disease, due partly to the dry Spring and early Summer weather, and no doubt, in part to greater attention to spraying and dusting.

In non-irrigated districts, vines have not yet shown signs of drought to the extent that stone fruits have; nevertheless, final prospects in these areas depend a good deal upon weather between now and vintage.

Currants: Heavy to very heavy crops are in sight throughout irrigation areas; at Berri and Renmark, a 20 per cent. increase above average is expected. Heavy crops have also set in non-irrigated areas.

Sultanas: Throughout the irrigation areas, Sultanas are showing good crops which will, however, be short of 1938 yields.

Wine Grapes: Generally, wine sorts show promise of a good vintage. In the Murray Valley under irrigation, Gordos are heavy to very heavy, this variety having set very good bunches this season. Doradillos are heavy, and in the Waikerie area, Shiraz and Pedro are reported to be very heavy.

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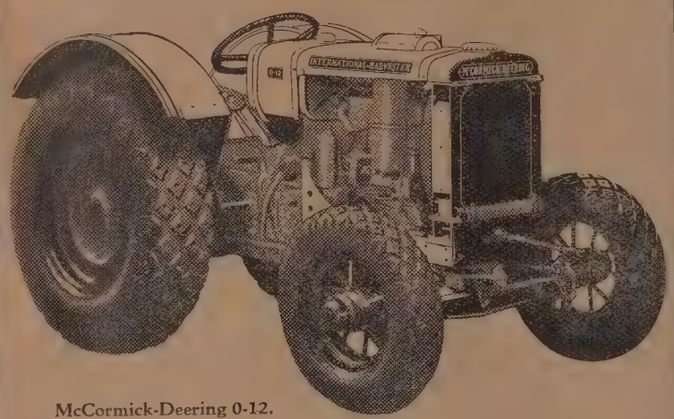

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CITRUS CROP PROSPECTS.

MR. R. J. BENTON, Special Fruit Instructor of the N.S.W. Department of Agriculture, states that the 1938 citrus crop has been a particularly good one, from the point of view of yield, in all districts —which was unusual. The quality of the Navels and Mandarins, in all localities where these were of commercial importance, had also been better than usual. The quality of the late Valencia variety, however, was not as good as in most years, an unusually large proportion being small, with a general tendency to rough skins, thicker than normal.

From the fact that such a large proportion of these more important citrus varieties had been either unusually good or inferior, it is evident that seasonal conditions have been mostly responsible for these effects. The factors which were generally so helpful to the Mandarin and Navel crops were not so favorable to the late Valencia variety.

The development of satisfactory citrus sizes is the result of many interdependent factors, some of which are known and others obscure. Some factors are controllable and others are not. The most important of the factors upon which good size of fruit depends appears to be ample soil moisture and well-drained conditions. Each grower should give consideration to these factors on his farm.

The rainfall in the coastal regions during the past few months has been excellent for growth and trees generally are more thrifty in appearance than for some years. The indications are that depreciation of fruit quality will be unusually rapid—meaning that, owing to regreening and loss of palatability and granulation, fewer orchardists will be able to market Valencias as late as has been possible in other seasons. On the other hand, the good crop of Valencias in inland areas should result in fruit being marketed late from these locations, and this will compensate for the reduced supplies available from coastal orchards.

Re-Working Citrus Trees.

Any trees which were severely cut back last Spring with a view to reworking will have made considerable growth. Much of this wood will not be required, and if it has not already been done, thinning should not be delayed any longer. As a rule, two or three of the most coveniently situated shoots on each arm are sufficient to leave for subsequent budding. Other growths are not required and should be severely shortened back or cut out altogether. Discretion must be used, however, to ensure that sunburning of trunk or large limbs does not result from excessive removal of shoots. Protection by whitewashing may be necessary, or the keeping of all unwanted shoots in a state of suppression, may provide sufficient protection from sunburn.

Cultural Operations.

As we approach mid-Summer it will be necessary to see that trees and maturing crops are not unduly restricted for moisture. In shallow soils in coastal areas, weeds must be kept in check. Very shallow discing or hoeing is preferable to more deeply stirring the soil.

In the deeper soil, weather conditions may continue to be favorable to the growth of weeds, but these must be grown with discretion, and killed by ploughing at shallow depths before their development is too advanced. On sloping situations the renewal of surface drainage furrows is essential to prevent erosion when any cultural operations are performed—for thunderstorms are probable.

In irrigated areas a restriction of water supplies may prove a blessing in disguise though, for this to happen it will be necessary for growers to make many observations as to the penetration of water applied—both vertically and laterally.

There is increasing evidence that frequent use of soil stiring implements is very undesirable. A soil crusted to such a degree that water penetration is rendered too difficult, or weed growth depleting the moisture required by the trees, call for the use of either cultivator or plough to rectify such condition.

If proof is obtained that soil moisture is insufficient in some part of the root feeding zone—at high or low levels—water must be applied to satisfy such requirements. Over saturation of any part of the root feeding area should be avoided. The preservation of a somewhat cloddy surface condition is desirable to facilitate penertation of water and aeration, and at the same time is inimical to weed development.

Citrus Pruning.

The removal of dead and spent wood in citrus trees should be continued. The season for fumigating and spraying trees for the control of pests will shortly be in full swing. The "lifting up" of trees clear of ground level by some 9 to 15 inches, and the thinning out of the centres of trees will considerably facilitate the more efficient carrying out of these operations.

Somewhat alternate-bearing varieties like Mandarins and Valencias may still benefit if trees setting heavy crops are more severely thinned than trees carrying lighter settings.

Lemon trees which have borne heavily may be slow in recuperating and will benefit by the removal of spent wood, and elongated branches should be reduced in length. Trees growing in soil lacking in fertility should not be pruned until such has been attended to.

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N.S.W. BANANA BOARD.

Now in Process of Winding Up.

Assets for Sale.

As a result of a poll taken in September, the N.S.W. Banana Marketing Board is calling for tenders for the purchase of the Board's assets. These include Sydney, Lismore and Tasmanian ripening rooms and selling floors.

Citrus Culture in Victoria

Record Crop in 1937-38

REVIEWING the citrus position att he end of the year, the "Citrus News" states that for the 1937-38 season all varieties showed increases over the previous year, although commons were only a few cases heavier. The agregate crop figure was a record. These figures relate, of course, solely to the citrus areas in the State of Victoria, and they must be considered in the light of the fact that on the N.S.W. side of the Murray there are citrus areas which are reflecting the same trend of production and which for practical purposes must be regarded as Victorian areas

The season's total of 392,000 bushels of Navels was the highest for five years, and it represented a 20 per cent. increase over the previous year. It was still short of the record of 408,000 bushels established in 1931-32, when the northern districts had a production of 193,000 bushels and the Mallee 214,00 bushels. Last year, however, the Mallee districts, embracing the areas from Merbein to Lake Charm, produced 229,000 bushels of Navels compared with their previous highest total of 216,000 bushels in 1933-34.

Last year's total was the highest production of Valencias from Victorian areas, 202,000 bushels, compared with the previous highest of 173,000 bushels in 1933-34, when the Mallee production was 114,000 bushels.

Lemons, although a little higher than the previous season, were still below the average for the last five years. The record for Victorian Lemon production was established in 1931-32 with 224,000 bushels, of which 85,000 bushels came from the central districts (the areas near Melbourne), 37,000 bushels from the Mallee, and 98,000 bushels from the northern districts. In 1934-35 the central area production increased to 122,000 bushels out of a total of 220,000 bushels. Since then, the average production of the central areas has dropped back to the 1931-32 figure, and both the Mallee and the northern districts show a decline in production on that basis.

The other varieties, with the exception of Grapefruit, have shown a gradual decline during the last six years. Grapefruit production during that period has, however, trebled.

The decline in the number of growers continue in some districts. It is known that the smaller number of growers is due in some districts to small uncommercial areas of citrus having been cut out because of the difficulty of giving them proper attention, particularly with regard to Red Scale control. In the other districts, small marginal acreages of Oranges and Lemons have been eliminated to make way for more profitable lines of production. In 1931-32, when the previous highest crop was produced, 2,322 growers reported on their crops. Of these, 1,088 were in the Mallee and 705 in the northern districts. Last year's crop was supplied by 2,068 growers, of whom 821 were in the Mallee and 557 in the northern districts.

The central district Lemon growers numbered last year 553, compared with 570 in 1933-34.

Citrus Fruit Juice

Big Project in New South Wales

AN INVESTIGATION is being made by representatives of the Fruitgrowers' Federation and of the Citrus Growers' Defence Association into the possibilities of introducing canned and bottled fruit juices in New South Wales. Inquiries are also being made concerning the establishment of a plant to cope with the excess production of citrus fruit in Australia.

At a meeting held to discuss the proposal, Mr. A. S. Brown, President of the Central Coast Council, said that £1,000,000 had been lost in the Central Coast alone because of Black Spot in Valencia Oranges and that it was mainly due to this that the canning of fruit juices had been brought forward. Preliminary investigations in America showed that canning had been a success, but so far the Australian experiments had not been so successful. He outlined a proposal for the grower to form a company in which an American company was prepared to invest £500,000. An expert would be sent to put the plant in operation. Legislation would have to be amended, but it was understood that the State Government was sympathetic. If the company were formed it would be a question whether it could dispose of the equivalent of about 200,000 cases of juice.

Method of Distribution.

Mr. F. Bryant, Secretary of the Citrus Growers' Defence Association, said that the present Milk Act debarred the Fresh Food and Ice Company and the Dairy Farmers Company from handling citrus juice to the consumer, but that both organisations had expressed willingness to handle distribution if the legislation were amended. He said that growers knew how they were now treated by companies handling their fruit in Sydney, and counselled them not to let city business people put money into the company, as they would want to make as much profit as possible. The growers should have major control.

Mr. Pedley-Smith (Terrigal) said he would like to see a committee formed with an expert from the Customs Department and an economist co-opted to formulate the scheme. The industry was going from bad to worse. He was disappointed that the Government had not put forward a scheme, but did not suggest that they should crawl to the Government. Americans had proved that by advertising, the public could be made "juice minded," and even if the industry lost money the Government should establish it.

Mr. G. I. Adcock said that it was essential to convert the public from the synthetic to the real fruit juice. They had to advertise.

A committee, comprising Messrs. A. S. Brown, F. Bryant, and Pedley-Smith was appointed to review the position.

LEMON CURING.

Factors Governing Possible Period of Storage.

THE CURING OF LEMONS consists in their storage at a favorable temperature, during which period the rind becomes somewhat thinner and more tough, whilst the juice and citric acid content increase. However, it is generally unwise to cure for more than three or four months, and some fruit will not keep without considerable wastage for so long (states the N.S.W. Department of Agriculture).

Various methods of storage have been tried, such as carefully clipping fruit, vaselining and wrapping in paper and storing in sand or sawdust, but **no method has so far been found to be superior to the placing of carefully handled fruit in boxes and storing away in a cool, dark, sheltered place.**

The more equable the temperature, the better are likely to be the results, but a range of 40 to 65 degrees (or even higher for short periods) appears to be satisfactory.

A Well-Built Shed

will be found to be quite satisfactory in the absence of an insulated room and machinery capable of providing an air-conditioned atmosphere of a temperature around 45-55 deg. Fahr. with humidity controlled at 90 per cent.

The cases of fruit may be stacked fairly close together and five or six cases deep, but occasional breaks a few inches wide are desirable to facilitate ventilation. It is advisable, however, to occasionally remove the stagnant atmosphere when storage is to last some few months.

During the Spring and Summer months a high humidity (if possible, 80 to 90 per cent.) is desirable in order to minimise shrinkage. If only a few boxes are being stored, each box may be lined with paper.

COLORING OF LEMONS.

With Ethylene Gas.

PROVIDED THE JUICE CONTENT is well developed, the use of ethylene gas may be resorted to for hastening the yellowing of green-colored Lemons. The exhaust gas from an oil engine may also be used with success, but care must be taken that carbon deposit is avoided.

The usual practice is to admit the gas to the fruit while stored in lug boxes covered by a heavy canvas, or in an air-tight room. The temperature should be not lower than 65 deg. Fahr., and not higher than about 80 deg., with a relative humidity of 80 to 85 per cent.—damping the floor or placing a dish of water inside the enclosure will maintain the humidity near this mark. The gas in admitted every twelve hours at the rate of one cubic foot to every 5,000 cubic feet of enclosed space.

Ventilation for half an hour just prior to admitting the gas every day is advisable with an air-tight room. Coloring is usually complete in from three to five days.

Lemons colored with ethylene often decay more quickly owing to the conditions under which the coloring has been carried out. Fruit for coloring should be harvested in dry weather and very carefully picked.

Remarkable results are being obtained by Mr. Frank Stevenson, of Bendigo, Vic., with the soilless growth of plants. He is using the American method, and by using 28 chemicals in water, with the seed placed in shavings on a wire-netting rack above the trough, he has grown several varieties of vegetables in an incredibly short time. Beans come through in four days, and in nine days they are eight inches high.

STORAGE OF ORANGES.

The Influence of Locality.

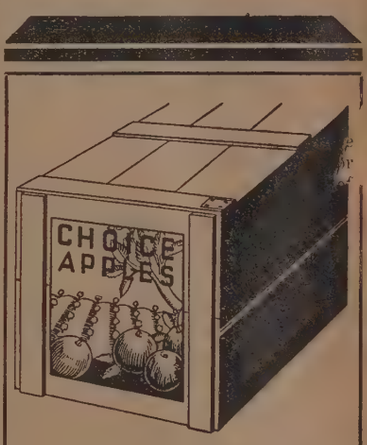
Imperative Need for Careful Handling.

AMONG THE FACTORS affecting the storage life of Oranges is the locality in which the fruit is grown. During the course of investigations that are being carried out by the N.S.W., Victorian and South Australian Departments of Agriculture in co-operation with the Council for Scientific and Industrial Research, states an article in the "Agricultural Gazette," it has been possible to compare the storage life of fruit from various districts in N.S.W. and also from districts in other States. Throughout the investigations coastal fruit has been or poorer keeping quality than that grown in inland areas, both in regard to storage spot and mould wastage.

The fact that coastal fruit has shown a higher mould wastage than that from the irrigation areas was at first thought to be due to a difference in resistance to decay. It has now been shown that the greater amount of mould wastage in coastal fruit, particularly that from Gosford, is due to the greater opportunity for infection which occurs in coastal grown fruit. It is thus particularly important that Gosford fruit, which is also more easily wounded than inland fruit, should be handled carefully.

It has also been found that fruit from the Hills and Mangrove Mountain districts, both Navels and Valencias, generally keeps better than that from the Gosford lowland areas.

Such diversity in storage behaviour has been found not only between fruit from inland irrigated and coastal areas, which are radically different in climate, but also between different orchards in the one locality. Such is the variability of citrus that the fruit from one tree is likely to behave during storage in a vastly different manner to that from another tree in the same orchard.



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THE ORCHARD TRACTOR.

Important Points to be Watched.

THE ECONOMICAL WORKING of the tractor depends so much upon attention to little details that the utmost care is essential if heavy repair bills are to be avoided. Engine noises should be studied so that their causes may be understood.

A light metallic knock indicates carbon accumulation on the piston and cylinder heads. This is known as pinking, or knocking, and is similar to the ordinary ignition knock. A light tapping noise may be caused in numerous ways, such as by a loose gudgeon-pin, loose pistons and piston rings, or it may come from the valve gear, the camshaft or the timing gear. A clatter, or light thudding, when the engine is revved without load generally means that the big-ends are worn and need attention. A dull thudding when the tractor is pulling hard implies that the main bearings are slack. Then there is the "slapping" noise often heard when the engine is cold and before the aluminium pistons have expanded to their normal working size.

A pinking noise is rather like a metallic rattle; it is due to an accumulation of carbon in the interior of the engine, or the use of unsuitable fuel—one which cannot withstand high compression. It may, in some cases, be that the ignition is too far advanced when the engine is pulling hard. On retarding the ignition the knock disappears, and the same is true when a lower gear is engaged. If there is a considerable accumulation of carbon, however, pinking persists, even when the ignition is retarded and this means decarbonising.

A regular tapping, noticeable at all times, but which varies with the speed of the engine, is due to excessive tappet clearance. The clearance is so great that it is excessive even after the engine is thoroughly warm, so the tappet heads bangs against the ends of the valve stems. Never set tappet clearances too fine, as doing so will cause the valves to burn and early trouble will result. Be on the safe side and refer to the manufacturers' instructions.

OVERHEATING THE ENGINE.

Attention Needed in Summer.

SPECIAL ATTENTION should be paid during the hot weather to the cooling system of car and truck engines. Overheating through shortage of water in the radiator, or through a defective fan, might cause a seizure or other serious damage to the engine.

The radiator case should be flushed periodically to remove scale and dirt from the small water passages, and old hosing connections should be renewed before the inside rubber becomes perished.

To flush radiator first drain off water by unscrewing radiator tap; then insert nozzle of hose in top opening, and allow water to flow through for a few minutes. Better results may be obtained by forcing water through the core in the opposite direction to its normal flow. This may be done by removing the lower radiator hose connection and injecting water under pressure in the radiator outlet.

If the core has become plugged, fill radiator with a solution of washing soda and water (about 1 lb. of soda to five gallons of water), run the engine slowly for a few minutes, and drain off; then flush out thoroughly with hose, and fill with clean water.

Do not pour a large quantity of cold water into radiator when water level is low and the engine hot, otherwise cracking of the cylinder head may follow. If engine is running hot through lack of water, pour a little cold water into radiator slowly, so that the fresh stream may have time to gain heat before it reaches the engine wall channels.

Grease and oil should be kept from fan belt. If belt is loose enough to cause slipping its tension should be adjusted, without making it too tight.

THAT JAMMED STARTER.

Simple Means of Release.

Notwithstanding the efficiency of the modern car, jammed starters are by no means uncommon. The usual remedy adopted is to engage low gear and rock the car back and forth. This obvious throws a tremendous strain upon the starter mechanism.

A more effective way is to engage top gear, to hold the clutch out, to push the car gently forward and engage the clutch smoothly. This is an infallible remedy, and has the merit of not throwing a great strain on the starter. The reason for its success is that the rear axle has more power over the engine in top gear.

USEFUL HINTS.

Corroded battery terminals often cause trouble to the motorist who neglects his car battery. To soften the corrosion so that the terminal can be moved easily, dilute it with ammonia. It is important to coat the terminal with vaseline in order to prevent a repetition of the trouble.

Ordinary rubber can be cut with a sharp knife or saw and the process is easier if the tool is frequently dipped in water. Tough rubber, such as that used for the treads of tyres, can best be cut if glycerine is used as a lubricant.

One or two small blocks of wood and a piece of strong board, which can easily be stowed in the car or truck, will often be found useful when mending a puncture or changing a wheel. The blocks will provide that extra high lift that may be necessary, and the board forms a solid base on which to place the jack. Release the spare wheel first and ease up the bolts on the offending wheel before lifting the car by the jack. The reason is obvious—a tight nut may require big pressure, and when released a jolt may upset the jack. Another point about the carrying of a wood block or so in your car or truck is that it may be of use on those now rare occasions where a spring breaks. Often a temporary repair may be fixed up by wiring or strapping a block between the axle and frame, so as to present overflexing of the remaining sound leaves of the Spring.

NEW G.M.-H. FACTORY.

£250,000 Venture at Pagewood, N.S.W.

General Motors-Holden has decided to establish a new £250,000 factory at Pagewood, N.S.W. Announcing the project, Mr. John Storey, director of manufacturing, said that the company was making a strong feature of working conditions for its employees. The new factory would have a club room and mess room, tennis courts, cricket pitches and football grounds for employees, and it would be surrounded by gardens, trees and shrubs.

Mr. Storey paid a tribute to Australian workmen. He said that his company, which operated in 21 different countries, was in a position to judge, and it considered that the Australian worker and executive produced results at least equal to those of any country in the world. The company, he said, began hesitantly twelve years ago in the cheapest premises, but now it was building permanent factories.

NEW BUICK FEATURES.

"Cat-walk" cooling has been adopted for the new model Buicks, which appear this year as Series 40 and Series 60. The former develops 107 h.p. and the latter 141 h.p., at 3,400 r.p.m. A perfected automatic direction-signal is standard equipment. A lower centre of gravity and better driving vision have been achieved. An entirely new frame design brings the Series 40 and 60 cars two inches lower at the rear, while maintaining a flat floor without a funnel. This gives increased stability and contributes to the long, low lines.

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Mould in Cool Stores

Its Cause, Types, and Prevention

IN AN ADDRESS delivered to The Orchardists' and Fruit Cool Stores Association of Victoria, Mr. T. O. Mitchell dealt exhaustively with the subject of "Mould Control in Cool Stores."

Pointing out that the object of refrigeration and cold storage generally is the preservation of perishable goods, Mr. Mitchell said that it is impossible to estimate the wastage that takes place, even domestically. **Although storage at low temperatures prevents the rapid deterioration by fermentive and putrefactive organisms which would take place under conditions of normal temperatures, it does not entirely prevent all infection from saprophytic fungi, which are the causative agents of many common moulds appearing on foodstuffs and other store products.**

Continuing, Mr. Mitchell stated:—

General Problem

There are many types of mould, but the two most important groups are the genera Penicillium spp. and Aspergillus. The object of this article is to discuss more from a practical angle the prevention of these moulds which are not controlled by cold storage and, indeed, are found to be present in many cool stores. If not growing on the foodstuffs stored, they may be present on walls, ceilings, boxes, etc., and so serve as a constant source of inoculum for the infection of otherwise clean foodstuffs which have been placed in such storage chambers. Thus, briefly, one may state that the **presence of mould growth in cool stores is undesirable for two reasons:—**

(i) Growing in damp places on walls, ceilings, stacked boxes, shelves, etc., it acts as a source of constant infection to the foodstuffs which continually come into cold storage.

(ii) Mould growth is unsightly and its presence assists in the rotting of structural linings if these are of organic origin such as wood, fibre board, etc., and whilst the growth of mould is a result of dampness and high humidity, its prolific activity causes increasing dampness which may bring about rotting of the wood on which it is growing.

It may be argued that in the case of fruits, mould present on walls and ceilings cannot attack foodstuffs, but this is incorrect because spores shed from seats of infection are wafted in draughts, and penetrate the openings in cases and enter the fruit through minute injuries which are constantly present, and then develop as wound parasites. It is doubtful whether mould will penetrate unbroken surfaces. One could name many organisms which are the causative agents of mould, but this is of little importance in discussing general mould control.

Moisture—High Humidity in Cool Stores

In mould control it may be stated that primarily, moisture is the limiting factor so far as growth is concerned. In all cases water must be obtainable by the mould hyphae before active growth and fructification can take place. It is interesting to note that under some conditions of storage of foodstuffs, the

Original Source of Infection

of the foodstuff may be present in the timber from which the boxes or cases are made. When timber is stacked in the open to season, the mould may develop and boxes made from such material may carry with them the primary cause of infection. Placing in any clean box an infected product may infect the case, and may be the means of transmitting the mould to future contents of such a case.

The development of moulds on box timber depends upon the type and condition of the wood, the temperature, and the presence of sufficient moisture. When infected wood is placed in cold storage, air of high relative humidity being always present, enables the germination of spores, and then infection can take place.

The bulk of boxed foodstuffs are kept in cold storage and thus under conditions of accurate control of cold storage temperatures, the growth of almost all moulds can be prevented. However, it is necessary to empty and fill chambers, and at such times temperatures rise to such an extent that mould spores will germinate and commence growth. Any mould growing in the chamber may shed spores on to foodstuffs which, while it is held at low temperatures, will not deteriorate, but on removal to atmospheric conditions will be rapidly attacked and destroyed. **Thus, a dirty chamber, whilst it may infect the goods while they are in it, apparently causes no loss, but the same goods when removed and brought up to atmospheric temperature, are quickly destroyed as the moulds become active.**

There is present in the atmosphere of any cool store a fluctuating concentration of the spores of many fungi. It is a practical impossibility to have air free from contamination, and thus it is **almost impossible to prevent infection, but it is possible to reduce sources capable of leading to infection to a minimum.** Factors such as bad sanitation, careless disposal of rotting materials, and bad ventilation will all favor fungal growth, but by exercising accurate control of refrigeration and a reasonable degee of hygiene and using the subsidiary methods of chemical control available the presence of mould in cool stores and the consequent detrimental effects it may have on products stored therein may be kept to a negligible minimum.

Prevention of Mould

THERE ARE THREE METHODS of exercising mould control under conditions of refrigeration:—

(1) **Sanitation.** — Constant attention to the removal of causes of primary infection such as rotting fruit, etc., and general cleanliness assist materially in cutting down mould infection. Nevertheless, all air contains spores of various types of mould fungi, but the reduction of the amount of spores in any atmosphere must needs assist.

(2) **Mechanical Means.** — Constant and accurate attention to temperatures at which foodstuffs are held is all important since there are definite temperatures at which germination and growth of mould and other putrefactive organisms can germinate and thrive. It must be stated, however, that the spores which are the seeds or resting stage of mould fungi are capable of being subjected to extreme of cold far below that reached in refrigeration chambers without being killed.

(3) **Chemical Methods of Control.**— It is intended to deal with this method of control in some detail.

Chemical Methods for Mould Control Under Conditions of Cold Storage.

All types of mould may be prevented by similar chemical means, and so for simplicity's sake we will discuss the whole problem without any dissociation of the mould types. As we have stated before, moulds are favored by damp conditions and their active growth depends on humidity. All spores, however, can live through dry periods and germinate when very favorable conditions arise and then grow vigorously. Apparently dry, clean boxes may carry these spores. They may also be present in the air, or on the clothing of persons walking into cool chambers.

The entry of mould spores into any chamber cannot be prevented from a practical point of view, but the growth and multiplication of mould within the chamber can be prevented and the spore population of the atmosphere can be reduced from the teeming myriads which are present in mould-infected chambers to an extent where mould growth is at least not obvious. The types of chemicals used for this purpose are known as **antiseptics.** The use of antiseptics requires very careful supervision where foodstuffs are concerned. The method of use of chemicals may be again divided under two heads:—

(1) The inhibition of growth by the incorporation of an antiseptic in the foodstuff itself. There are certain permitted preservatives such as salicylic acid, the bi-sulphites, sulphur dioxide, and brine, which are allowed in certain concentrations in edible materials. Under the question being discussed at present, however, the incorporation of antiseptics is impossible in such foodstuffs as fruits, etc.

(ii) The second means of chemical control of mould is by the treating of all surfaces within the store, and all boxes and cases to be brought into the store by a chemical which will kill all mould spores present on the surface at the time of treatment, and will prevent further infection by virtue of the presence of the chemical used in the treatment.

The aim of these methods is to lower the concentration of spores in the atmosphere of the store, and they must be carried out in conjunction with the mechanical methods mentioned above, as well as with general sanitation. It is possible to use a great variety of chemicals for this purpose, but it is necessary that substances used in this regard have certain properties, the major of which are **nontoxicity to humans, and the ability to impart lasting protection.** Good zinc or aluminium base paints will inhibt the growth of most fungi on wall surfaces, for instance, but the wholesale use of these paints in food stores is not desirable. The qualifications for any chemical which is a suitable antiseptic for general use in the treatment of structures, boxes, or cases in cool stores, are that, as well as antiseptic efficiency, it must have the following properties:—

(a) It must not be toxic, that is, poisonous.

(b) It must be economic in use.

(c) It must have no action on wood, metals, etc.

(d) It must not be affected by heat or cold, and must exercise its antiseptic properties over a wide temperature range.

(e) It must be sufficiently soluble or finely dispersed to ensure a uniform distribution over the surface.

(f) It must be stable, and be able to exercise its antiseptic properties over a long period of time after application.

(g) It must have no appreciable color or smell, or develop any color or smell after exposure to atmospheric or acid or alkaline conditions.

Inhibitory Chemicals

Many antiseptics have been introduced and tried. At the Shirley Institute in England a product was developed as a suitable inhibitory chemical for mould fungi to be used in the textile trade. This product was salicylanilide, and is to-day manufactured and marketed under the name of "Shirlan" . Shirlans are available commercially in three forms:—

(1) Shirlan 100 per cent.—A powder 98 per cent salicylanilide, insoluble in water but soluble in organic solvents.

(2) Shirlan A.G.—A colloidal preparation of salicylanilide dispersed in water and capable of being carried by water as a spray and/or as an addition to water paints.

(3) Shirlan W.S.—The sodium salt of salicylanilide which is water soluble.

For the remainder of this article we will deal with the Shirlans which are pre-eminent antiseptics from the viewpoint of desirable properties for application to the chemical control of mould under cool store conditions. We will review them individually and separately:—

(1) Shirlan 100 per cent.—This material may be incorporated in all types of oil-bound paints. Such paints, however, find little favor in cool stores because of their tendency to flake off under conditions of frosting and de-icing.

(2) Shirlan A.G.—Shirlan A.G. is prepared as a creamy paste and is readily dispersible in water. It may be added to paints of water-casein type, to calsomines, and to lime washes, or it may be used as a spray with water at the rate of 1 lb. in 30 gallons. Used in painting or sprayed over the walls and ceilings of cool stores after they have been cleaned, it imparts to them a protective covering which effectively prevents mould growth thereon.

Shirlan A.G. is not water soluble and is not removed under conditions of de-icing.

Shirlan A.G. may be added to water and applied as a spray or wash on to walls by means of a fine hair broom, and is an effective control of mould in refrigeration chambers.

Examination of Shirlan A.G. and Shirlan W.S. in New Zealand for the prevention of mould in cool stores has shown that these two products are very effective.

(3) Shirlan W.S.—Is water soluble, and if used at strengths of 0.01 per cent. solution to 0.1 per cent. solution for washing down walls or added to lime wash paints or distempers, it will effectively prevent mould growth over quite an extended period of time.

FRUIT CROPS IN W.A.

Apple Probably 1,500,000 Cases; All Other Fruits Heavy.

IN A PROGRESS REPORT on the fruit crops in Western Australia, the Supt. of Horticulture, Mr. Geo. W. Wickens, states that his previous estimate of the Apple crop of 1,500,000 cases will be very nearly correct.

Pears of all varieties are undoubtedly heavy, and there will be a considerable increase on last year's figures.

All stone fruits—Peaches, Plums, Nectarines and Apricots—are carrying heavier crops than last year.

Treatment of Every Case on its Merits

Every case of mould prevention must be examined before deciding which of the products is to be used and how it is to be used. For example, Shirlan W.S. in a water solution would have a tendency to wash off oil painted walls during defreezing operations. Thus, the insoluble Shirlan A.G. is probably preferable for use where moisture will be running off the walls and ceilings. However, on the other hand, where the walls are unpainted, scrubbing them down with a hot solution of Shirlan W.S. will ensure a certain amount of penetration of the Shirlan into the fibres of the wood, imparting to it mould resisting properties. Shirlan W.S. cannot be mixed with oil paints, as it causes a "livering up." Shirlan A.G. also causes such a livering up, but to a much less extent than Shirlan W.S., and is capable of use in oil-bound paints. Shirlan 100 per cent. is definitely no reactive and can be incorporated in the ordinary type of house paints. For interior factory work and cool stores, oil-bound cold water paint containing Shirlan W.S. up to 3 per cent. of its dry weight is available on the market. Such paint has given absolute control of fungal growth in food factories and cool stores.

Some brief recommendations for the mould-proofing of cool stores which are buildings lined with cork and faced with cement and sand mixtures, or faced with board which is unpainted or has been lime washed, are as follows:—

Prior to treating for the prevention of further mould growth it is necessary to remove all mould growing on the walls and ceilings and on cases. Alternative methods are available — sweeping the walls thoroughly with a stiff broom; or washing down with hot water containing 1 lb. or Shirlan W.S. in every 10 gallons. The latter method is, of course, the most satisfactory and under conditions where the wood has not been painted, at the same time imparts a considerable degree of resistance to mould growth. If it is desired to then rewhitewash or distemper the walls with a good kalsomine, Shirlan W.S. can be added to such water paints or water washes at the rate of 3 lbs. of Shirlan W.S. to every 97 lbs. of kalsomine powder used; or alternatively, 1 lb. of Shirlan W.S. can be added to every 10 gallons of the prepared water paint. This treatment should serve to keep the chamber immune from mould growth for a period of up to 12 months.

Shirlan being odorless, tasteless, and absolutely non-toxic to animals, has many claims to being the ideal mould preventive.

Treatment of Cases, Sweat Boxes, etc.

Mention has already been made of the fact that mould spores may be brought into cool storage chambers on the boxes or cases in which fruit is stored. Especially is this the case with second-hand containers which may have contained rotting fruit. The spores produced from the mould growing on the rotting fruit are held on the rough surface of the box and in the crevices, and fresh, clean fruit stored therin may be readily infected, especially if it has any minor woun in the skin.

Cases and boxes may be sterilis in many ways:—

(i) **Steaming.**—Steaming is pra tised to achieve two ends—first the destruction of any insect eggs larval forms which may be in t crevices of the box, e.g., Codli Moth, and secondly, to generally cle up the case and exercise some degr of mould control.

(ii) **Immersion in Boiling Water.** This achieves similar results to t steaming method.

(iii) **The Use of Chemical Dips Cases.**—From overseas one hears ports of the use of solutions chlorine for sterilising boxes a packing cases before they are us to hold perishable goods. Here agai a wide range of chemicals will k the mould spores present in the box and a number of chemicals will g a lasting degree of protection.

A chemical like chlorine or form lin exercises a killing action over l a short period of time and when t gaseous principles have evaporat and dispersed, the case may be read re-infected. Such a dispersion can ta place after a very short space time; it may be expressed in hours not in minutes.

Shirlan.—Shirlan again is an id antiseptic for the treatment of cas If at the beginning of the packing se son, cases are sterilised by dipping a hot or a boiling solution of Shirl W.S., which may be used at the ra of 1 lb. in from 10 to 20 gallons water, then such cases will not on have any spores which they may carrying destroyed, but a certa amount of penetration of Shirlan in the surface of the wood will preve mould from gaining a foot-hold these cases over an extended per of time, thus giving an additio safeguard to the perishable goo which they are to contain under co ditions of cold storage.

An actual photograph of a shipment of fruit being loaded at the Patrick Wharves, Darling Harbour, Sydney.

FRUIT *travels Quicker, Safer and Cheaper* by the **Patrick Line**

TO the Fruitgrower, nothing is more important than getting his produce to market while it is in tip-top condition. Patrick steamers are not only equipped for the safe carriage of perishable cargoes, but their regular weekly sailings make prompt deliveries a certainty! Patrick employees are trained to offer consignees prompt and courteous attention. Patrick rates, too, have been standardised at levels which mean a considerable saving in freight costs. And, another thing! There is no need to book space ahead. Simply send your fruit to the nearest Patrick port of call — Sydney, Melbourne, Brisbane or Newcastle — and leave the rest to us.

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ARE YOU GRUBBING?

Previous experience had convinced me that to be really efficient a grubbing machine should have ample power and ropes that will meet the heavy demands required of them. I found that shovel and axe work is very costly either by itself or in conjunction with a machine. The machine that offered these features with a host of others, was **THE "MONKEY" GRUBBER.**

It gave me the power of 260 pairs of hands in a simple and compact form; the lever is short, so that I am able to stand firm-footed and get the full stroke. There are two speeds in the machine, as well as an automatic release that allows me to let off a strain, or as the machine will work in any position, it comes in for all jobs that would require a chain block. It is taken to the job on a pair of wheels like a barn truck, and is rigged for work in a few minutes. The ropes are in lengths that I find easy to handle, and each one is fitted with hook and loop couplings, so simple and absolutely IT for effectiveness. The makers have included a sturdy snatch block with a novel method of securing to the ropes, and also a fine type of firm gripping rope shortener. The latter makes it very easy to accommodate the lengths of rope to the tree or stump being pulled, and is quickly released from the rope. The combination of so many time and labor saving features makes the "Monkey" Grubber a superior grubbing outfit.

REMEMBER FOR YOUR GRUBBING THERE'S ONLY

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Leading Stores and Merchants, South and West Australia.

TREWHELLA BROS. Pty. Ltd. Trentham, Vic.

PUBLICATIONS RECEIVED.

Insects of Citrus and Other Tro cal Fruits (by Henry J. Quayl This is a comprehensive and valua book containing 583 pages, profus illustrated, and is published in N York by the Comstock Publishi Company. The author is Profes Henry J. Quayle, who is entomolog at the Riverside Experiment Stati and also on the faculty of the Univ sity of California. The book is work of years—complete and autho tative.

It is interesting to note that in t preface of the book, thanks are tended to the following Australia who assisted in connection with th work: W. B. Gurney, New Sou Wales; Robert Vietch, Queenslan L. J. Newman, West Australia; T. M. Pescott, and the late S. A. Co Victoria.

The price of "Insects of Citrus a Other Tropical Fruits" is five dolla and copies are available from Cha W. Horn (R. and R. Book Store Santa Ana, California, U.S.A.

"PIONEER SHIPPING," by Norman, Hobart (J. Walch Sons, Hobart) is of especi interest to fruitgrowers in the Hu and Channel districts, the Upper De went, Spreyton and the estuary the Mersey River. It is also of i terest to those in the timber indust and ship builders. Mr. Norm knows his subject and deals with from the first ship built in Tasman from local timber down to the prese day. It is pleasing to note from th book that such a useful industry still flourishing in Tasmania, and th the popularity of the local timber h been maintained.

THE MARKET GROWER

OFFICIAL ORGAN OF VEGETABLE GROWERS' SOCIETY OF VICTORIA, THE KOONDROOK & BARHAM TOMATO GROWERS ASSOCIATION AND THE SOUTH AUSTRALIAN FRUITGROWERS' AND MARKET GARDENERS' ASSOCIATION.

Vegetable Culture

ONION BOARD POLL — VALUE OF WINDBREAKS — RESEARCH WORK NEEDED — CULTURAL NOTES

(By Our Correspondent.)

SINCE writing last, the ballot for the continuance or otherwise of the Onion Marketing Board has been taken, with the result that by only five votes the Board still remains in operation, but what a ridiculous situation it presents. There were 618 votes cast in favor of the abolition of the Board and 418 votes cast in favor of the continuance of the Board, but because the Act requires a 60 per cent. majority to vote the Board out, the 618 growers who voted against the Board have to submit to the 418 growers who voted in favor of the Board. It only needed five more votes to be cast against the Board to obtain the necessary 60 per cent. Quite clearly growers do not like to be bound by all sorts of regulations in selling their produce.

Value of Windbreaks.

The violent winds which have lately swept Victoria brought to the mind of vegetable growers the great advantage of having wind breaks through the garden. The old system of planting lucerne or Tea Tree hedges was all right in years past when a grower had unlimited land and could afford to lose the land on each side of the hedge, but now that land has grown in value it is too costly to waste so much which could be used for cropping. The system which is largely adopted to-day is to erect a fence of swamp Tea Tree. This is not very costly, for a post and wire fence is first erected with the posts about eighteen feet apart and then the brush is woven in between. It is wise to have double wires in which to stand the brush, and every two feet these double wires are joined by a short piece of wire; by this method the brush is prevented from slipping up together.

When putting the fencing wire on, start from each end of the fence and work to the middle panel, when a separate wire will pull these posts up, and thus act as a strainer for the fence. These fences have the added advantage of not harboring vermin, which is a condition which must be watched in these days of Pea Mite and birds. If weeds are allowed to grow round a fence, it makes a breeding ground for Pea Mite, which has become such a source of worry to growers. By ploughing close up to a dry hedge the weeds can be easily kept in check.

The only gardens which did not get wind-swept during this last gale were those that had hedges or breaks to protect them, and this will mean many pounds in the pockets of those growers who have taken the precaution of having these breaks. The loss to growers by wind has been particularly heavy this year, for with the land so dry many places which do not usually blow have been swept from end to end by the heavy winds. When a crop has had to be watered from the time it was planted, quite a large amount of money has been expended by the time the crop is in the rough leaf, and this is the stage many crops were in when the wind damage was done.

Carrots, Parsnips, Beetroot, Lettuce and Turks and Marrows were the crops most damaged, and the effect will be felt right into the Autumn, for most crops which were planted during November will have to be planted again and these will not mature until late in April. In the case of Turks, Marrows or Melons it is too late in the season to plant again. The damage caused by the recent wind storm has again brought very vividly to the minds of growers that their water charges are too high, for the crops which have been lost have all been grown by irrigation water, and so vegetable growers are not only faced with the monetary loss of their crops, but also they have used large amounts of water, which will have to be paid for out of future crops, and the payment of these heavy accounts often leaves the grower no margin of profit for his labor.

Research Work by Department of Agriculture.

With the New Year starting, the time seems opportune for the Department of Agriculture to take up some research work to aid vegetable growers in their fight against many pests which cause thousands of pounds of damage every year. There are the Pea Mite and the Cut Worm, just two of many, the effective checking of which would be of great value to growers. Then there is Black Leg in Cauliflowers and Cabbage, a disease which growers know very little about in the way of checking. Often whole crops are lost with this disease, while there is no known cure or preventative for it. It is not uncommon to lose all the plants in one seed bed, while in a bed next to it there may be no infection at all. There is also Club Root in Cauliflowers and Cabbage, which seems a great field for research by the Department, for if this disease gets into the land, it makes that area useless for Cabbage and Cauliflowers for several years. There is also Celery Rust, which plays great havoc in a damp year, and for which we have no reliable remedy. It will be seen with these few diseases mentioned what a wide scope there is for the Agricultural Department; if they would take an active interest many growers would be glad to co-operate with the Department in finding out more about these diseases.

Seasonal Notes.

Cauliflower and Cabbage seed beds should now be constantly watched for Aphis and Grub, and it will be found necessary to water the beds much more frequently than is usually necessary on account of the abnormally dry year.

It is the aim of all growers to produce a plant which is hardy and clean, and one that will withstand some hot weather when it is planted out in February, so a slow growth in the bed is necessary. If the seed has come up very thick, it is advisable to pull some of the plants out. This allows those that are left to fill out, and not grow too lanky. If they grow too long in the stalk, plants are never as strong.

Plant beds should never be watered in the heat of the day, but either in the early morning or late in the evening.

As we come to the New Year the Vegetable Growers' Association extends greetings to all growers and wishes them a prosperous New Year.

"Plane" Brand Dusts

"Beauty" (Knapsack) Dusters
"Superior" (Rotary) Dusters

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MELBOURNE

Improving Lettuce Varieties

VALUABLE STRAINS FROM LOCAL AND OVERSEAS SOURCES.

RESEARCH WORK on improvements with Lettuce is being conducted by the Plant Breeding section of the N.S.W. Department of Agriculture. The N.S.W. Director of Plant Breeding (Mr. H. Wenholz) has made available the following interesting information.

A few years ago local seedsmen had a good demand for a light green Lettuce such as Iceberg, which has the ability to heart well in Summer. This variety, however, had an objectionable red tinge on the edges of the leaves, and Mr. Shirlow, Plant Breeder at the Hawkesbury Agricultural College, set about **breeding a new variety possessing all the good qualities of Iceberg, with the elimination of the red coloration.**

Such a variety was evolved and named Yarramundi Summer. It is definitely superior to Iceberg and to Improved Hanson as a light green type.

At the same time as Mr. Shirlow was producing this new variety, Dr. I. C. Jagger, of the United States Department of Agriculture, was making excellent progress in the **production of superior types of Lettuce** in that country.

The **Imperial strains** of the variety "Wonderful" produced by him are a distinct improvement on the original variety, not only in size and quality, but they also constituted a very great improvement in frost and mildew resistance.

The best of these strains, viz., Imperial C, Imperial D and Imperial F, have proved very well suited to local conditions, and as most of our commercial Lettuce seed is imported from America, they have been quickly secured and listed by local seedsmen

Continuing his excellent work Dr. Jagger set out to produce

Strains of Lettuce

still better than the Imperial selections mentioned for hearting under hot Summer conditions.

Tests of these newer strains made at Hawkesbury College last year revealed two of them, viz., Imperial 847 and Imperial 850, to be of outstanding value, and they made a considerable impression on local seedsmen at a field inspection at Hawkesbury College in December last year.

The former strain, a black seeded variety, has already become commercialised in America and at least one enterprising local seedsman has already landed stocks of seed, and includes it in his current catalogue.

Although Imperial 847 is apparently the better Lettuce under American conditions, Imperial 850, which has white seed, and which has not been commercially developed in America, has so far appeared to be slightly superior to Imperial 847 under local conditions. Dr. Jagger has very kindly consented to allow us to commercialise the variety here. Seed is therefore being increased by the Department with the view of placing it in the hands of local seedsmen for commercial distribution. Imperial 847 and Imperial 850 have been found susceptible to mildew and to frost, and with Imperial F are not equal to Imperial C nor Imperial D as a Winter crop, because of the greater resistance of these last-named varieties to frost.

Protect Your Plants

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PESTEND SUPERFINE

(Tobacco Dust)

Expert gardeners and growers recommend the use of PESTEND SUPERFINE—either for dusting, spraying, or for dressing the soil.

Used in a spray-duster or pressure-gun, PESTEND SUPERFINE adheres better, lasts longer, and costs less than ordinary spraying powders.

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Obtainable in 4 lb., 28 lb., and 1 cwt. bags at all produce stores, or direct from W. D. & H. O. Wills (Aust.) Limited.

5869-3-7

Late Blight of Celery

(Septoria Apii-Graveolentis (Dorogin).

Effective Treatment by Land Hygiene, Seed Treatment and Spraying the Plants

By J. O. Henrick, Plant Pathologist, Tasmanian Department of Agriculture.

DURING the last season a leaf-spot severely attacked several Celery beds in the environs of Launceston, Tasmania, and in one case completely destroyed the crop.

On enquiry of this particular grower he stated he had noticed slight signs of the trouble in the previous four seasons, but had taken no steps to obtain information regarding it.

Examination of the spots and spores places the disease as that described by Cochran as the "small-spot type" of Septoria.

Symptoms.

The first indications are small light yellow areas showing up on the lower outer leaves and gradually spreading on to the leaf stalks and stems of the plant. These infected areas later assume a greyish-brown appearance, and are seen to be densely studded with small pin-point black bodies (pycnidia), some of which are also present in the immediately surrounding tissue).

Control Measures.

In order to plan satisfactory control measures it is essential to be conversant with the method of carry-over of the disease. The fungus is carried over the Winter in—(a) diseased plant refuse, and (b) the seed coat, where seed has been produced by infected plants.

It is recorded that the spores on the seed remain alive for more than two years, whereas those in refuse die under twelve months.

From the foregoing it will be seen that three phases of control are necessary—(i) land hygiene; (ii) seed treatment; (iii) growing crop protection.

(i) Land Hygiene: (a) All infected leaves that have been cut away should be destroyed by burning; (b) at the end of the season all refuse should be gathered up and burnt; (c) area should be well drained; (d) rotate crops. The disease attacks only wild and cultivated Celery and Celeriac.

(ii) Seed Treatment: This phase is only necessary where it cannot be guaranteed that seed is from a healthy crop. Every effort should be made to obtain clean seed, as the various methods recommended for seed treatment cause a considerable reduction in germination percentage.

The three methods of treatment recommended are:—

(a) Dipping in corrosive sublimate 1 in 1,000 (1 oz. in 6¼ galls. on water) for 15 minutes; or

(b) Steeping in formalin solution, 1 part commercial formalin to 400 parts of water, for three hours; or

(c) Steeping in hot water at 118 deg. Fahr. for 30 minutes and then rinsing in cold water.

Whichever method is used, the seed should be planted while still damp.

(iii) Growing Crop Protection: During the growing season the crop should be sprayed with Bordeaux Mixture (6:4:40). Every part of the plant, under surface of leaves as well as upper surface, should be covered with the fungicide.

(a) Commence treatment when the plants are in the seed bed, giving the first application when about 1 inch tall, and the second a day or so before transplanting.

(b) When the growing plants are 6 inches high spray again, following up with two more sprayings at 10 to 12-day intervals.

Where the disease has been severe, one season of carrying out the above programme should do a lot toward clearing up "carry-over" and in future years control would consist in attending to land hygiene and using clean seed.—"Tas. Journal of Agriculture."

Dried Fruit Notes

Dried Vine Fruits

Crop Prospects Satisfactory

LAST YEAR'S RECORD CROP OF 90,000 TONS of dried vine fruit is not likely to be reached this year, but the indications are that the pack nevertheless will be a very substantial one.

Reports from the principal areas of production show that only minor damage was done by frost, and that the setting has been good. Individual blocks suffered to some extent by the cyclonic winds in November, but the effect of this on the total pack will be infinitesimal and will really be very small in individual cases because of the greater development of fruit remaining on damaged vines.

A Warning Note.

In estimating the probable crop even at this comparatively late stage of the growing season, it is always well to remember that **the most dangerous period has still to be negotiated.** The frosts are well past, and the dry Spring has precluded serious fungoid troubles, as well as minimising other pests; the system of spraying now universally practised has had a fair chance to safeguard the vines.

Without being pessimistic, however, but rather as an indication of the need for cautious consideration of the postion it must be pointed out that the prospects of a normal yield may still be affected very seriously by the uncontrollable weather factor.

Extensive hailstorms and excessive Summer rains are not unknown. The fact that they have not occurred for several years is no guarantee that they will not come this year. Hail can cause very serious damage in quick time, wherever it strikes; the effects of too much rain can be just as devastating even though the results are not so apparent immediately. Some years ago, early in January of an unusually hot and dry Summer, heavy rain fell in Mildura and Renmark districts for several hours, and for three days there were intermittent thunder-showers, with a very high humidity.

Many growers will remember that occasion because of its anxieties; the land, recently irrigated and then deluged by rain, was too boggy for the use of power sprays, and only knapsack sprays could be used to stay the spread of downy mildew, which appeared and travelled quickly through the settlements.

The story was the same at Nyah, Bungumyah, Goodnight, Renmark, and most of the South Australian river areas. Let us hope that not for many years will there be a repetition of that unfortunate experience, but in estimating the probable crop it is always well to keep in mind the important reservation, "weather permitting."

Market Prospects.

By means of publicity and other methods the Australian consumption has gone up from the 12,000 tons of a few years ago to 15,000 tons last year. This left an export of 75,000 tons from the last pack—a tonnage that presented a grave problem to those responsible for sales, and incidentally one that would inevitably have meant chaos and disaster for the industry in the absence of a sound system of organised marketing.

Thanks very largely to the fact that there was such a system in operation, with supplies judiciously held and sold on the London market, sales were very satisfactory and the carry-over to this year will be much smaller than might have been expected. The stimulus given to clearances by the war scare in September was more than offset by the period of stagnation due to doubts about the fate of Empire preferences on dried fruit, so that on the whole the growers have reason to be appreciative of the work done by the Export Control Board and the various selling agencies.

Currants continue to be a bad line for the Australian grower, and there is still no real indication of better prices, although an improvement is overdue.

Our Currants are still meeting the dual competition of Californian "natural" Sultanas and Greek Currants, and while that position remains the price for Australian fruit will be governed by a factor beyond the control of Australia.

There is a grain of comfort, however, in the reflection that on several occasions in the past twenty years the Currant has been the mainstay of the Australian grower when Sultana and Lexia prices have been depressed. The once-despised Lexia has, by the turn of international events, been a fine proposition during the past two years.

Sultanas, which were of exceptionally good standard last year, maintained their position with regard to values, and seem likely to continue giving the same return. It should be remembered, however, that tariff pre-

(Continued on Page 28)

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BETTER CROPS
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(except the seed) comes back as quickly in the form of handsome profits as
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DRIED FRUIT NOTES—(*Continued*).

ference is a vital factor in sales in our principal markets — the United Kingdom and Canada—and that the exchange advantage constitutes an important part of the grower's profit.

Lexias have been a great standby for those growers fortunate enough to have this fruit during the past two seasons. The war in Spain, of course, has been mainly responsible for the demand and the high price. With the conflict still going on, and the return of the Spanish fruit to competition with Australian very indefinite, the prospects for Lexias are still good. In addition, the improved quality of our fruit has won the approval of buyers, and there is a fair chance of retaining a share of the market in which we were formerly outclassed.

New Production.

THE RECORD PACK of 90,000 tons is likely to be exceeded during the next few years. Despite all warnings, and despite the fact that no Government will foster schemes for new areas being placed under dried fruits, there has been an increase of acreage during the past three or four years. The increase has not been substantial in any one area, but new blocks have been planted in many places, and these will soon be coming into bearing. Another factor of considerable importance is the development of several big drainage schemes, aimed at reclaiming unprofitable blocks and others that were marginal because of seepage troubles. Already improved yields have been shown as a result of these works, and the safety of several settlements from seepage has been assured.

Taking these things into account, small new blocks and the productive recovery of older ones—it is only logical to expect that before long a favorable season will see Australia's pack of dried fruits topping the 100,000 tons mark.

Consideration of such a probability naturally leads to speculation as to the outcome. One fact stands out clearly from the experience of the dried fruit industry in Australia, and in even more marked relief in the history of that and other primary industries in America. It is that the risk of trouble from over-production is infinitely less and far easier to handle when the growers stand loyally by their own organisation.—W.B.H.

In its first year of running, "Spirit of Progress," the pride of the Victorian railways, covered 139,000 miles at an average speed of 50.88 miles per hour. Eighty per cent. of the distance was on the non-stop run between Albury and Melbourne.

THE DRYING OF APRICOTS.

Avoid Excessive Sulphur.

Advice to Packers and Growers.

The following letter has been sent to all packers and Apricot growers in the State by the N.S.W. Dried Fruits Board:—

Excessive sulphuring by a number of producers of Apricots has caused considerable inconvenience and difficulty in marketing dried Apricots during recent years. The maximum content of sulphur dioxide in dried Apricots permitted by the N.S.W. Pure Foods Act is 14 grains per pound. The principal marketing difficulties, however, are experienced in relation to export. The Health Regulations in England and New Zealand both provide for a maximum sulphur dioxide content of 14 grains per pound. These countries are the principal overseas destinations for dried Apricots produced in New South Wales.

The N.S.W. Dept. of Agriculture has issued a valuable pamphlet on the sulphuring of Apricots. It is pointed out that the Apricots for drying should be "eating ripe." A number of small air-tight chambers are recommended in preference to one large one. Seven to eight lbs. of sulphur per ton of fresh cut fruit should prove ample. The sulphur should burn steadily.

Under average Summer day temperatures four to eight hours' exposure to sulphur fumes is considered sufficient to preserve the color without over sulphuring. The practice of leaving fruit in the sulphur chamber overnight is not recommended.

Where the shade temperature is over 100 deg. F., the period of exposure should be 3½ to 4 hours; from 90-99 deg., 4 to 5 hours; 80-89 deg., 5 to 6 hours; 70-79 deg., 8 hours.

The sulphur dioxide content may be reduced by allowing trays to stand in the shade for one or two days after sulphuring before exposure to the sun, and this procedure is recommended in all cases where there is any suspicion of over sulphuring.

DRIED FRUITS BOARD (S.A.).

At a meeting of the South Australian Dried Fruits Board on November 30, the Secretary (Mr. W. N. Twiss) reported that the Dried Fruits Amending Bill had passed through all stages in the Legislative Council, and minor amendments by the Council were accepted by the House of Assembly, and that copies of the amending Act would be available when printed.

Minutes of meeting of Consultative Committee held in Melbourne 31/10/38 were submitted and the following recommendations to the Committee were dealt with.

(1) Increase in Home Consumption Quota for Lexias from 40 per cent. to 45 per cent. approved, as well as increase in Home Consumption Quotas for Nectarines from 60 per cent. to 82.5 per cent., subject to agreement by the New South Wales Board.

(2) That no additional weights be allowed in the export quota for dried tree fruits in consequence of added weight through moisture content. Recommendation approved.

(3) Joint memorandum of State Board Secretaries 1/11/38 on State Board Levies and Administration, was received.

(4) Continuation of contribution toward joint investigation work in New South Wales was agreed to.

(5) **Uniform Packing House Returns:** The Secretary reported that a uniform packing house return for the State Boards, Department of Commerce and A.D.F.A. was being drafted.

In the matter of processing of Prunes, it was agreed to comply with the request of the S.A. Prune Growers' Association to circularise all Prune growers in regard to the treatment and preparation of Prunes for packing and the Secretary was directed to take steps for a regulation to be made for the registration of all premises where processing of Prunes is being carried on.

Australasian Jam Co. Pty. Ltd.

NEW COOL STORE

80,000 CASE CAPACITY

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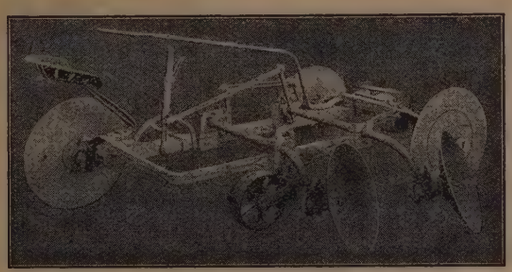

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A sturdy, strong plow equipped with reversible discs to enable the operator to plow up to, or away from the trees. Operated by a single lever and with nothing to catch branches of trees. To facilitate the movement of the plow around the orchard the discs are movable and lift clear of the ground.

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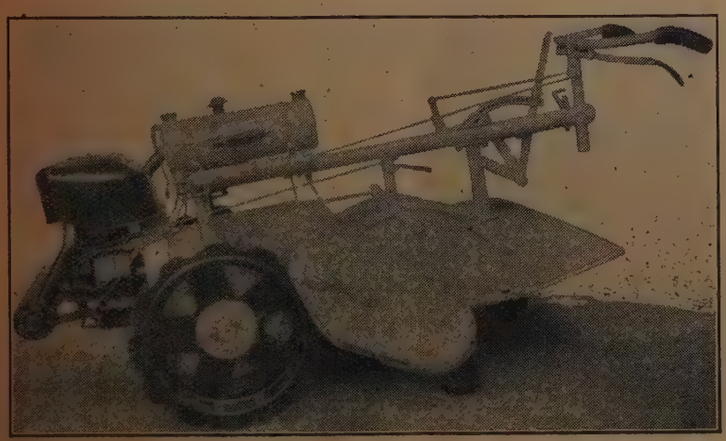

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As I used nothing else on this piece of land, only the Rotary Hoe for the past 3 years, and instead of finding hard pan, I found what I was sure I would find, "A beautiful soft spongy bottom, and a white piece of spewy land, turned into a nice dark chocolate."

I am more positive than ever now that I did the right thing in buying my hoe, and that for all classes of land tillage, the Rotary Hoe will never be excelled.

I might point out that the picture of my orchard in the "Government Gazette," is my young orchard only 7 years old, and had no tillage with any implement, only the Rotary Hoe, during the past 3 years, and the growth speaks for the wonderful work the hoe is doing.

I remain, your more than satisfied client,

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CANNED FRUIT NEWS AND NOTES

KYABRAM'S RECORD YEAR.

Highest Output; Profit of £11,453.

THE REPORT of the Kyabram Co-operative Cannery directors to the annual meeting on November 29, 1938, showed that after making the usual provision for depreciation, the undertaking had made a clear profit of £11,453/19/6. A record had been created in the quantity of fruit processed (7,482 tons) producing 10,750,000 cans of fruit and 425 tons of fruit pulp. The report further stated:

"The improved conditions of 1937 were, unfortunately, not maintained during the period under review. Preliminary bookings were satisfactory, but as the season progressed buyers became reluctant to operate further, in view of the accumulation of excessive stocks in other producing countries. This factor adversely affected Australian exports, and has resulted in generally disturbed trading conditions with some lines at unremunerative levels.

Sales for the year were substantially in excess of any previous year, but below the volume necessary to clear stocks, which is reflected in the accounts at balance date. While a complete clearance is not expected, it is anticipated that current stocks will be substantially reduced before new season's fruits are available.

Additional Cool Storage.

The additional factory facilities were fully employed in handling last year's production. Cool storage accommodation was, however, quite inadequate for our requirements. Your directors, therefore, decided to erect **an additional block of stores to meet our immediate requirements,** and the new stores will be available for the ensuing season.

During the year our factory manager, Mr. T. McMaster-Smith, visited North America to investigate the latest methods of cannery practice. The knowledge and experience gained as a result of his visit will be of material value in further improving our factory operation."

RECORD YEAR FOR ARDMONA CO.

A PROFIT of £5,292/8/- is disclosed in the annual report of Ardmona Fruit Products Co. Ltd., and it is stated that the cannery processed 8,887 tons of fruit, producing 13,750,000 cans, and 293 tons of pulp. This represents a large increase on the previous record. The directors add that the excess of accumulated American stock on the London market affected the selling price of the Australian product, which in several instances had to be cleared at unremunerative prices. The company reports a record turnover but insufficient to clear stocks. The directors state that it was found necessary **to provide additional cool store space and four new chambers will be in operation during the coming season.**

CREDITABLE RECORD.

S.P.C. Goods in Imperial Show.

HIGHLY GRATIFYING SUCCESS has been achieved by the Shepparton Fruit Preserving Company at the Imperial Fruit Show, held from October 28, to November 5 at Bristol.

Advice has been received from Bristol that, in competition with canneries from all parts of the British Empire, the S.P.C. brand has once again demonstrated its quality by gaining the majority of the awards, including 12 firsts and six seconds.

The Shepparton cannery has been consistently successful in this show, which is held in a different centre in Great Britain each year.

RESTRICTIONS ON ALIENS.

Objection to Colonies of Foreigners.

Shepparton and Werribee Areas.

NEW RESTRICTIONS have been placed on the settlement of foreigners in the Shepparton and Werribee irrigation areas because the Government considers it undesirable to have foreign colonies established in this country.

The Minister for the Interior, Mr. McEwen, replying to Mr. Blain in the House of Representatives, made the following statement:

"The Government has never had any reason to believe that aliens were affecting the employment of Australians in land industries, except in obvious areas such as the **sugar area** in Queensland and the irrigation areas in New South Wales and at Shepparton.

"Investigations have been made as a result of which it was announced recently that no further permits would be issued to aliens who desired employment in the sugar-growing area in Queensland.

"At Leeton (N.S.W.) an investigation disclosed that there was no necessity for any action. There was more reason in Victoria, because of the aggregation of aliens in the Shepparton area, and round Werribee, and the Government has decided to take the same action there as it did in respect of the Queensland sugar area —that no further permit will be issued for aliens deciding to settle there other than dependent relatives."

Mr. McEwen, replying to Mr. Lazzarini (Labor, N.S.W.), said that the frequent rumor that aliens circulated their landing money of £50 had been investigated on numerous occasions, and had been found to be without substance.

2,541 Here in Year.

Announcing that 8,011 landing permits were issued to alien migrants to come to Australia for the year ended June 30 last, compared with 6,392 permits for the preceding year, Mr. McEwen disclosed that by far the heaviest alien migration was to Victoria and N.S.W.

Mr. McEwen said that the division of alien migrants among States last year was as follows:—N.S.W., 2,461; Victoria, 2,451; Western Australia, 1,440; Queensland, 1,094; South Australia, 542; Tasmania, 23.

The United States is believed to possess the largest known deposits of phosphate rock in the world. At probable rates of consumption, the Florida and Tennessee deposits are sufficient to last for over 200 years, and the western deposits will last for another 2,000 years or so after that.

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ELEVATING-GW-TRUCKS

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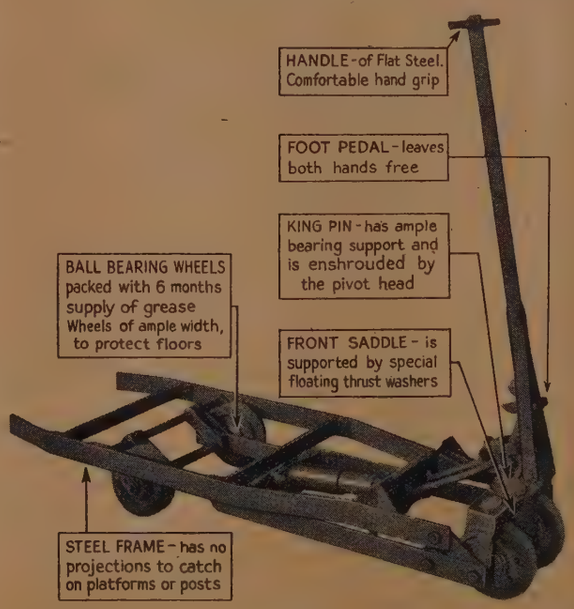
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Export & Commercial News

Australian Apple and Pear Council

Executive Meeting Held at Sydney on December 19 and 20, 1938

ANGLO-AMERICAN TREATY — PEAR VARIETIES — SHIPPING AND FREIGHTS — MARKETING IN AUSTRALIA — DISCUSSION RE CONTINUANCE OF COUNCIL AND STATE ASSOCIATIONS.

A MEETING of the Executive of the Australian Apple and Pear Council was held at the Commonwealth Bank Buildings, Sydney, on Monday, December 19, at 10.30 a.m.

There were present: Messrs. J. B. Mills (Chairman), D. E. Ryan, J. R. Abel, R. W. Humphreys, J. P. Piggot, F. Moore, F. R. Mellor, A. E. Herring, J. W. Blick, J. R. Randell, P. R. B. Searcy, H. W. Soothill, R. M. Carter, and the Secretary, R. E. Boardman.

Death of Mr. H. Bishop.

The Chairman referred to the loss sustained by the industry in the death of Mr. H. Bishop. The late Mr. Bishop had rendered good service to the industry over many years, and his death was a loss not only to South Australia but to the industry throughout the Commonwealth. A letter of sympathy had been sent to the widow and family.

All delegates stood in silence as a tribute of respect.

Anglo-American Treaty.

Correspondence was received from Mr. Everard Ross, London, directing attention to the fact that under the most favored nation clause, concessions granted to U.S.A. also applied to the Argentine.

Mr. Ross also enclosed copy of letter sent by Mr. Cordell Hull, U.S.A. Secretary for State, to the British Ambassador at Washington, D.C., concerning co-operation with the Empire Fruits Council and possible representation of U.S.A. on the Empire Fruits Council as the authoritative body to deal with these matters.

Mr. Carter directed attention to the date, April 15, for the commencement of the duty of 4/6 per cwt., whereas the Council had requested that March 15 be the commencement date.

The Chairman stated he had already taken this up with the Prime Minister, appreciating the work of the Australian Trade Delegation and suggesting that in any bilateral agreement between Australia and U.S.A. regard be paid to reverting to the date originally proposed, viz., March 15, as by April 15 we were getting up to the time of substantial arrivals of Australian Apples, especially in an early year.

An undertaking had been given that official cognisance would be taken to remind U.S.A. exporters that quantities should be tapered off because of due arrivals of Australian Apples, but machinery was needed for the implementing of the proposal.

Mr. Ryan stated their representative, Mr. McKinley, held the view that cold stored American Apples were not wanted when fresh Australian supplies came forward.

Mr. Soothill said he viewed the position seriously. American competition early in the opening period could conceivably be felt throughout the season. In any projected alteration Australia had something to offer U.S.A., namely, the effect of the closing period for the 4/6 cwt. duty, August 15. Expense should not stand in the way of the Council taking any steps likely to be of value in this matter.

Mr. Piggott said the danger was with U.S.A. Apples cold stored in England competing with Australian Apples. Should early Australian Apples be deemed immature the trade turned to American Winesaps.

In further discussion it was pointed out that by reverting to the earlier date for the preferential tariff U.S.A. would have an additional month's storage if this method were to be used by U.S.A. Weekly figures were supplied showing U.S.A. and Australian Apples imported into U.K. during the period under review.

Mr. Soothill moved:—

"That the President, Vice-President, and Deputy Vice-President be requested and authorised to take the strongest practicable steps to safeguard the position likely to arise from the dates of variation of the British import duty."

Mr. Carter seconded. Carried.

Mr. Herring urged the importance of an effort to sell Australian Apples in U.S.A. and moved:—

"That this Executive approach the Commonwealth Government requesting that in any trade negotiations with U.S.A. consideration be given to the sending of Australian Apples to U.S.A. in exchange for American motor cars, oils and machinery."

Mr. Blick stated U.S.A. sent Oranges, Grapefruit and Lemons to Australia and it was reasonable that U.S.A. should take Australian Apples from States free of the Fruit Fly.

Mr. Moore stated that was a matter of policy which he considered the Executive should not deal with. Such a proposal would have repercussions among State Associations.

In further discussion doubt was expressed if there was a market in U.S.A. for Australian Apples. U.S.A. was developing her Pan-American policy, if any Apple supplies were needed such could come from Argentine and Chile. There was also the question of reciprocal trade in that U.S.A. might desire to send Apples to Australia.

It was finally decided to note this matter in the minutes and to refer same to the new Board for Investigation.

Pear Varieties.

A letter was received from the S.A. Fruitgrowers' and Market Gardeners' Association expressing disapproval of the deletion of W.B.C., Kieffer, Lemon Bergamot, and Howell from the export list.

The S.A. Fruit Marketing Assn. wrote requesting that W.B.C. and Lemon Bergamot be retained on the export list or alternatively that a longer period, say three years, be allowed to enable growers to work over the trees.

The Chairman stated he had replied to the S.A. Fruitgrowers' and Market Gardeners' Association expressing the opinion that it would not be possible for the Executive to review the decisions of the full Council.

It was decided on the motion of Messrs. Ryan and Carter that this matter be referred to the new Board.

Freight to Port Said.

O.S.R.A. wrote in response to representations by the A. & P. Council, that the matter of freight reduction to Port Said had received careful consideration. by the lines concerned, but they regretted they were unable to make any alteration to the existing rate.

Mr. Soothill directed attention to the great disparity in freight charges to Port Said as compared with freight to England, viz., to U.K. 3/1 plus 18 per cent., to Port Said, 4/6 plus 18 per cent.

It was decided "that a letter be sent to the Department of Commerce directing their attention to this matter."

It was also decided that the attention of O.S.R.A. be drawn to the measure of difference and to the fact that way-port freights had not participated in any reductions.

Diversion of Cargoes.

A letter was read from Mr. R. W. Humphreys setting out details in connection with fruit cargoes per "Donau" and "Port Campbell" loaded and consigned to the Continent yet diverted to England without paying duty. Apart from the effect upon the

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London is reached by express freight trains in three hours from Southampton—All fruit unloaded in Southampton to-day will be at Covent Garden, Spitalfields, or Borough Market for early morning market to-morrow, with days saved as against fruit discharged by ships calling at Continental and other outports first. The slight additional cost is altogether outweighed by the tremendous advantages of days saved.

Deterioration is avoided by special arrangements for sorting to mark, and quick insulated trains direct to London.

Southampton cold stores available for storage of produce for local consumption or Midland deliveries. Pears can be discharged from ship to cold store in less than 5 minutes.

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quota there was also the question of size of the fruit as shipments to the Continent contained a far greater percentage of large sized dessert fruit than is the case with U.K. shipments.

Continuing, Mr. Humphreys stated that the Bills of Lading in the instances referred to were made out to Continental ports with no optional clause. Apparently the British Government had the power to refrain from charging duty where cargoes were thus diverted (though duty would have been charged in the case of transhipment).

It was decided on the motion of Messrs. Humphreys and Piggott:—

"That this Council approach the Empire Fruits Council to have the matter of the diversion of fruit cargoes thoroughly ventilated and finally approach or make arrangements through the body in the best position to approach the British Government, with the request that any fruit consigned from Australia direct to a foreign port or ports (and by this direct shipment showing that the fruit was definitely intended for delivery to a foreign country when shipped from Australia) would be liable to the duty notwithstanding the fact that the vessel originally loading the fruit discharged in the U.K. without transhipment, and also that this matter be taken upon with the Department of Commerce and the Shipping Companies."

Mr. Piggott seconded. Carried.

Mr. Soothill considered it advisable that provision should be made that when optional ports of discharge for U.K.-Continent or Continent-U.K., were provided, such fruit should conform to the export regulations for the U.K. and be treated as within the quota.

He moved:—

"That where Bills of Lading are drawn for discharge optionally at U.K. and Continental ports such fruit shall for purposes of Commonwealth Export Regulations and quota be treated as for U.K. discharge.

That O.S.R.A. be requested to issue no such Bills unless agreed to by the Department of Commerce."

Mr. Searcy seconded.

Mr. Humphreys and Mr. Piggott opposed on the grounds that fruit for the Continent was bought before shipment and it was desired this method should continue rather than that the fruit should go on consignment; they suggested that difficulties of a practical nature existed in relation to the policing of the regulations under Mr. Soothill's resolution.

Mr. Mellor moved as an amendment:

"That owing to the difficulty of policing the quota and the regulations we request O.S.R.A. not to issue Bills of Lading on fruit covering optional discharge as between U.K. and Continent; this not to restrict the issue of Bills of Lading as between U.K. port and U.K. port or Continental port and other Continental port."

Mr. Abel seconded. The amendment was carried.

Australian Markets Committee.

A letter was read from the Queensland Department of Agriculture acknowledging receipt of Fruit Grading Regulations, as decided at Interstate Grading Conference and which had been gazetted in Victoria. A promise was given that investigations would be made regarding the gazetting of similar regulations to bring about uniformity.

In reply to the Council's letter requesting the New South Wales Government to amend their Plant Diseases Act to provide for the gazettal of uniform interstate grading regulations. The N.S.W. Minister for Agriculture (Mr. Reid) stated that

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the report of the Fruit Industry Commissioner had to be awaited.

Tuesday Morning, December 20.

The Executive reassembled at 9.30 a.m. Mr. Mills presided over a full attendance.

Australian Markets.

The Secretary advised having made contact with representatives of the industry in Sydney re conference at 2.30 p.m. that day, details being sought as to the setting up of the Apple and Pear Board and collection of funds for Australian publicity.

Mr. Searcy stated that in Adelaide the proposed Markets Committee of the Council was being set up from growers only. He advocated the inclusion of trading interests.

Mr. Piggott said best results would be achieved only when both sides of the industry were represented.

Mr. Ryan spoke of the necessity for a start with publicity as early as possible, an advance against funds to be collected should be arranged.

Mr. Mills stated that the justification for the suggested early functioning of the Apple and Pear Board was that of dealing with the question of Australian marketing and publicity.

Mr. Soothill moved:—

"That this Executive appreciates the value of the assistance of representatives of marketing interests in the work of Australian Market Committees, and commends both to State Committees and to the Apple and Pear Organisation Board the desirability of gaining the full co-operation of such persons."

Federal Grant.

Mr. Piggott reported on the recent deputation to the Federal Government requesting a bounty on 1938 Apple and Pear exports. The deputation had been courteously received, and had put up a strong case for a bounty, detailing the bad export seasons for the past four or five years, increased costs of production and packing and that such a bounty would be in lieu of adequate freight reduction.

The request had been refused on several grounds, including the fact that export prices were generally satisfactory last season, and the industry was not in distress. A bounty now would prejudice any request that might be made should the industry ever be in distress.

Report received and Mr. Piggott thanked.

Empire Producers' Conference.

A letter was read from Mr. Dunlop, M.L.C., Chairman of the recent Empire Producers Conference at Sydney regarding matters of policy affecting quotas for U.K. Enclosed was a letter from Sir Reginald Dorman Smith on the same subject.

The Chairman read his reply, pointing out that the work as indicated in the correspondence from Mr. Dunlop and Sir Reginald Dorman Smith was already being attended to by the Empire Fruits Council in London and that the Apple export industry desired this matter to be dealt with by that body.

Correspondence received and President's action endorsed—motion Messrs. Searcy and Carter.

Continuance of Council.

Mr. Soothill traced the steps taken by the Council at the request of the industry leading up to the passing of the Apple and Pear Publicity and Research Act, the levy being up to ¾d. per case, it being understood, however, that the sum to be collected would be ½d. The levy would be imposed on a date to be proclaimed, and funds would be vested in the Apple and Pear Board. He raised the point as to when it was considered the levy should commence and further as to the Board authorising the Apple and Pear Council to administer the publicity campaign for the coming season. In his opinion this Executive should record in its minutes the fact of the passing of the Act.

Mr. Piggott advocated the keeping of the Apple and Pear Council in existence, as the Parliament of the industry, as on this vital link with the industry would depend the success of the Control Board. Fruit was a growing commodity and subject to varying conditions in cool storage, etc. It would be a mistake to eliminate the interest and goodwill which had been created. Information from interstate delegates gained at annual conferences was invaluable.

Mr. Ryan stated the Tasmanian State Fruit Board had considered this matter. There was the question as to the funds needed if the Council had to be kept in existence. State Associations would need finance on the present basis in order to continue their activities.

The Chairman stated he understood from Mr. Cameron at the Canberra Conference that funds would be provided for at least an annual conference of the Council. Thus the Council could be kept in existence but on a smaller scale than at present. State organisations needed to continue to fuction as at present.

Mr. Searcy urged the continuance of the Council "until further notice."

Mr. Blick felt the Council should continue in an advisory capacity. Experience with other boards had shown the necessity for the producers to maintain an effective link between themselves and the Board that had been created.

Mr. Herring considered the annual conference of the Council and its Executive should be kept in existence.

Mr. Soothill moved in relation to the opening of the debate:—

"That this Council appreciates and endorses the action taken in the passage of legislation to provide for collections on Apples and Pears marketed in Australia, insofar as they relate to provision for development of the Australian Market by Publicity."

He gave it as his sincere conviction that the Act relative to funds for publicity was the most important step yet taken, affecting the destiny of the industry. It offered more scope for the improvement of the industry than anything previously visualised.

Mr. Soothill then moved:—

"This Council suggest to the Apple and Pear Organisation Board that consideration be given to the desirability of taking advantage of the Council's existing organisations in respect of publicity at least in the early stages; and pending consideration of this suggestion that the Council maintain its Australian Market Organisation."

Mr. Carter seconded.

Mr. Ryan urged that provision be made for an immediate start with the desired publicity. The resolution was carried.

Regarding the **continuance of the Apple and Pear Council** and State Associations, Mr. Abel said his views were modified since hearing the discussions. He moved:—

"That it be a recommendation to the Apple and Pear Board to request State Associations to consider how they could continue to operate when the Board functioned."

Continuing, Mr. Abel said that with reference to annual Council conferences it had to be remembered voting was on the basis of quantities exported—even if Tasmania sent only two delegates (to save expenses) instead of five, to which they were entitled.

Mr. Ryan, in seconding, stated that if holding annual conferences of the Council, there could conceivably be no need for an Executive, as the Council could be in recess between conferences. The Board would operate its statutory powers.

Mr. Moore said the question of finance was vital in this connection. The Board would need to be soundly financed as it would function best by paying a good salary to its chief executive. He understood from the Canberra Conference it was the intention for funds to be provided, as at present, to keep State Associations in existence, as from these organisations the Board was elected and continuous contact was needed.

The Chairman stated the Council could act in an advisory capacity, just as the Australian Dried Fruits Association still operated effectively, co-operating with the Dried Fruits Control Board.

Mr. Abel consented to the withdrawal of his resolution.

Mr. Soothill moved:—

"This Executive is of the opinion that it is desirable that the work of the Council be continued as complementary to that of the Apple and Pear Organisation Board, and requests that constituent members consider this matter particularly in respect of what modifications of functions and methods may be desirable and as to the amount and method of finance."

Mr. Searcy seconded.

The resolution was carried, it being noted that delegates from the Tasmanian State Fruit Board did not commit their Board in this connection, but would refer same favorably to their organisation.

Quota.

Attention was directed to the resolutions carried at the Executive meeting in November, 1935, as follows:—

"That in the event of any State finding itself unable to fill the quota allotted to it such State shall notify the Council and such portion as it is unable to fill shall be redistributed by the Executive of the Council among the States."

"That in the event of any State being unable to fill the space allotted to it (after having accepted the space from the shipping company and the responsibility for filling it) the Allotment Committee, or other appropriate authority in such State shall not transfer the space to another State without first obtaining the approval of the Apple and Pear Council, with the exception of minor quantities of space; any distribution of space becoming available as above for filling in another State shall be made by or through the Allotment Committee or similar responsible body in that State."

Continuing, Mr. Soothill stated it was important that space applied for in any State should be filled in that State. A shortage by any shipper should not be transferred to another State, but handed back to the State Committee for re-allocation to other shippers. Any State shortage should be referred to the Council.

The Chairman stated that a letter embodying the resolutions referred to would be sent to State Constituent Associations and to O.S.R.A.

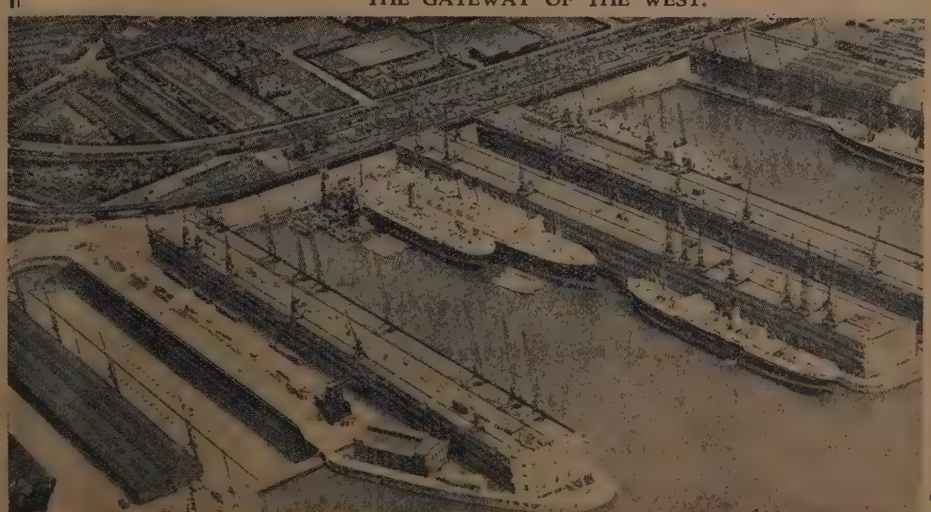
Fruit Shipping Programme and Wool Sales.

Mr. Searcy stated that fruit shipping programmes were apparently made to fit the wool sales. This was unfortunate, especially in South Australia, where the wool sales were monthly. There was a wool sale in Adelaide the last week in February, then followed the accumulation of tonnage during the first week of March, and there was no boat during the second half of March. Space was urgently needed then for Jonathans and Cleos.

The Chairman said it was correct that the wool sales affected the fruit shipping programme. Frequent efforts had been made by the Council and O.S.R.A. to fully meet fruit shipping requirements.

THE PORT of LIVERPOOL

THE GATEWAY OF THE WEST.



THE GLADSTONE DOCKS.

Very large quantities of fresh and dried Fruits are landed at Liverpool. Auctions of Fresh Fruit three times per week, and are attended by buyers from all the Midland centres, the North of England, Glasgow and Ireland.

Rail and road facilities for rapid distribution of purchases are unsurpassed.

H. W. RICHARDS, Representative for the Mersey Docks and Harbour Board.
31 MACQUARIE PLACE, SYDNEY. Phone No.: B 5200.

Mr. Soothill suggested contact with Wool Brokers' Association, as it was possible they could draw up their itinerary for sales which fitted in better than at present with the desired fruit shipping programme. He moved:—

"That the matter of wool sales dates be explored in an endeavour to secure best possible programme for shipping fresh fruit."

Mr. Searcy seconded. Carried.

Fruit for Near East.

Mr. Blick stated that the recent regulations regarding fruit for Colombo prevented the fruit from being shipped as deck cargo, it now being necessary to send the fruit (from States where Fruit Fly existed) in refrigerated chambers. Thus more refrigerated space was now needed.

Mr. Abel stated he understood that available refrigerated space had not been taken up.

Mr. Carter stated that representatives of mail steamers had been consulted. The understanding now was that all States should put in their correct forecasts for Colombo, Bombay and other ports, and such would be effectively dealt with by O.S.R.A. Noted.

Pure Fruit Juices.

The Victorian Fruit Marketing Association wrote enclosing letter from Lawfords Fruit Exchange, Doncaster, and supporting the request contained in that letter that a request be made to the Customs authorities for entry of needed machinery (not manufactured in Australia) at lowest possible duty.

Decided on the motion of Messrs. Ryan and Searcy to support the request and write to the Customs authorities accordingly.

Empire Apple and Pear Competition.

Letter received from the Department of Commerce conveying memorandum from Dr. Harrison, London, stating the Imperial Fruit Show Committee was seeking the co-operation of all the Dominions in connection with an Empire Apple Packing Competition to be held in connection with the Imperial Fruit Show at London next November.

The proposition had been discussed by a committee representing England, Canada, New Zealand, South Africa and Australia, and was worthy of support if sufficient enthusiasm could be stimulated. Prizes £100, £50 and £25. Continuing, Dr. Harrison recommended State-wide packing competitions in each State, with finals in the capital cities, and this would bring about considerable improvement in the standards of commercial packing.

After discussion there was a consensus of opinion that the proposal was impracticable. Certainly this Council could not handle the matter. However, should it be decided to go on with the matter, steps should be taken to protect the reputation of Australia. It was left with the Chairman to send a suitable reply.

Fruit Carrying Steamers.

Mr. Abel directed attention to ships used for fruit carrying last season, which he believed were unsuitable for the trade.

The Chairman stated this matter had been taken up with O.S.R.A.

1939 Levy.

Mr. Carter stated the levy as decided at the Apple and Pear Conference was ½d., but up to ¾d. could be collected under the new Act.

It was decided on the motion of Messrs. Carter and Mellor to write to the Department requesting that the levy be ¾d. for the coming season.

The Executive also dealt with quotas and contact with New Zealand.

Sydney Publicity Committee.

A conference was held between the Executive and a Committee representing the Fruitgrowers' Federation of N.S.W. The N.S.W. Chamber of Fruit and Vegetable Industries and the Fruit Section of the Sydney Chamber of Commerce.

Plans were made for the functioning of the Sydney Publicity Committee for representation on the co-ordinating Committee for deciding the Australian programme of educational publicity to increase the consumption of Apples and Pears.

ROTARY HOE PROFIT.

Rotary Hoe Cultivators Ltd., which is the selling organisation in N.S.W. for Howard Auto-Cultivators Ltd., reports a net profit of £2,953 for the year ended June 30. A dividend of 8 per cent. requires £2,741, leaving £476 to be carried forward. Sales are steadily maintained.

Capital is £36,000, and there are reserves of £9,300. The bank overdraft is £12,275. Stocks are valued at £5,344, and debtors owe £62,431.

POTATO CROP IN VICTORIA.

Reduced Yield in 1937-38.

According to reports from the Victorian Department of Agriculture, the area under Potatoes in Victoria for the 1937-38 season was 41,105 acres, yielding 134,712 tons compared with 45,627 acres planted in 1936-37, yielding 196,623 tons.

Owing to the dry season, plantings for the current year are likely to be somewhat less than last year, but it is too early for any estimate of the area to be made.

Planting is general in the late and mid-season districts.

Owing to the continued dry weather it is estimated that the early crop in the market garden area will be very light, averaging approximately 2 tons per acre. It is reported from the Western District that useful rains at the end of the month benefited the crops, and with further falls good crops may be expected.

In the majority of districts deliveries of old season's Potatoes are almost complete. Prices rose from £12 to £15 throughout the month, and are now steady at £15 to £15/10/-.

An application has been made for tariff protection by a new company being formed to manufacture starch from Potatoes. Evidence was given by one witness that his firm was now manufacturing 26 tons per year.

Growers—

Consign Your Fruit and Vegetables to Agents who are Members of N.S.W. Chamber of Fruit and Vegetable Industries.

List of Members:—

FRUIT SECTION.

Associated Growers' Selling Agency.	W. H. Southcott.
Bart Allen & Son.	F. G. Stevens & Son.
Boot & Carter.	E. T. Stanton.
W. B. Bromley,	F. J. Salmon & Co.
Fred Chilton.	Sam Yick & Co.
F. W. Chew & Co.	Trathen & Hall.
Seymour Dening.	D. C. Turnbull.
C. Gibbs & Son.	Joshua Terrey.
J. Hawke.	R. Valentine & Sons.
May Bros.	L. L. Vince.
Mop Lee & Co. Ltd.	A. E. Walker & Son.
Mc Lee & Co.	Wilson Bros.
John Jenkins.	Ward & Felton.
J. W. Kirby.	Watkins & Evans.
J. J. Macgroom.	A. Weymark & Son Ltd.
McKellar & Devlin.	Wing On & Co. Ltd.
Mitchell & Lawless.	Wing Sang & Co.
W. Musgrove & Son.	Wing Tiy & Co.
Neil Jolly & Co.	E. F. Woodward.
F. H. G. Rogers.	Yocksui Bros.
Reedy Bros.	

VEGETABLE SECTION.

A.P.E. & Co.	A. Leedow.
Boot & Carter.	Messent & Gauld.
H. Cooke.	Mitchell & Galvin.
C. Cooper.	G. E. Molesworth.
H. M. Clarke.	E. W. Parker & Son.
Clarke & Son.	W. J. Paull.
E. G. Clarke.	S. J. Rhodes.
J. Clayton & Son.	Reedy Bros.
W. J. Curtis.	W. H. Southcott.
Dening Bros.	F. G. Stevens & Son.
Dunstan & Norris.	Thompson & Smith.
C. C. Greentree & Son.	A. E. Terrill.
J. Hawke.	A. E. Valentine.
	Yocksui Bros.

P. S. MACDERMOTT,
General Secretary,
215a Thomas St., Haymarket, Sydney.

City Fruit Markets Sydney N.S.W.

Licensed under Farm Produce Agents Act.

F. CHILTON

Fruit Commission Agent

ESTABLISHED 1894

SHIPPING NO. 56.

HIGHEST MARKET PRICES — PROMPT RETURNS — RELIABLE ADVICE.

Registered Address for Telegrams and Cables: "CHILTONS."

References:—Bank of N.S.W., Haymarket, Sydney and Growers throughout Australia.

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Licensed Farm Produce Agents. (No. 2253)

HEAD OFFICE:
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References: Bank of New South Wales.
Shipping Numbers on Application.

N&A

BRANCH: 6 CITY MARKETS, SYDNEY.
Telegraphic Address: "NANDA."

PHONES:
Newcastle, 1365. Sydney, MA 8428.

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Selected Agent for:—
Tasmanian Fruit Board.
Tamar Coy., Tatana, Launceston.
Goulburn Valley Fruit Growers' Association.
Westralian Tomato Growers' Association.
Southern Queensland Tomato Growers' Association.
North Coast Tomato Growers' Association.

References:
Bank of New South Wales, Haymarket, Sydney.

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Established 1882.

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Queensland, Northern Rivers, No. 18.

Market Notes and Prices

THE SYDNEY MARKET.

The Fruitgrowers' Federation of New South Wales recently issued its market report for December 19, 1938, with review of previous week.

Apples (extra fancy, fancy and good): Allsops Seedling (N.S.W.), 5/- to 12/- per bush.; Crofton (Tas.), 12/- to 16/-; Del. (N.S.W. and Tas.), 14/- to 24/-; Demo. (N.S.W. and Tas.), 12/- to 16/-; Granny S. (N.S.W.), 12/- to 16/-, choice 22/- to 25/-; Yates (Vic. and N.S.W.), 14/- to 18/-; Lord Nelson and Mobbs (N.S.W.), 5/- to 14/-; Carrington, 3/- to 10/-.

Comment on the Apple position: Good demand for better classes, but prices of all sizes were well maintained. Tasmania forwarded 5,598 cases to Sydney, this being the last shipment to arrive before Christmas.

Apricots, N.S.W.: Inland, 4/- to 7/-, special large higher, over-ripe lower.

M.I.A. supplies have been fairly heavy, some of the fruit was very ripe and slight wastage occurred.

Bananas, N.S.W. and Qld.: Prices according to the Banana Marketing Board of N.S.W. Regulation graded, first quality fruit. Six, seven, eight and nine inch, 12/- to 19/- per trop. case.

12,527 tropical cases came to Sydney last week, N.S.W. forwarding 10,126 and Queensland 2,401.

Cherries, N.S.W.: 5/- to 7/-, few higher, light colored lower per quarter bushel case. Prices generally were well maintained.

Citrus Fruits.

Grapefruit. — U,S.A.: Californian, 31/6 per Cal. case. N.S.W. and Vic.: 15/- to 16/- per bush..

Figs: 3/6 to 4/- per ½ bushel case.

Lemon. Special and Standard. — N.S.W.: Local Counts, 72 to 113, 4/- to 5/-; 125 to 216, 5/- to 8/-, few 11/-, cured 8/- to 11/- per bushel. Inland, 7/- to 10/- per bush. Vic.: 9/- to 12/-.

Oranges. — Valencias, N.S.W. (standard and special):—Counts 88 to 113, local 5/- to 7/-; 125 to 150, local 8/- to 9/-, special 10/-, inland 8/- to 10/-; 163 to 198, local 6/- to 7/6 per bushel, special 10/-; 216 and smaller 5/- to 5/6; Plain grade 4/- to 7/-. Two bushel crates (inland), 11/- to 15/- per bush.

Comments on the Citrus position:—Lemons: A large quantity of the local Lemons arriving were of poor quality, and would not keep. Oranges: Vals., demand was very firm.

Mangoes (Qld.).—Turpentine, 4/- to 8/- per bush. case; others, 12/- to 18/- per bush. case.

493 cases came forward from Qld. last week.

Melons (Qld.). — Honeydew, Californian Cremes and Cantaloupes to 16/- per tropical case. Queensland forwarded 440 tropical cases last week.

Nectarines (N.S.W.).—Local, 7/- to 10/- per half case; inland, 7/- to 10/-, special to 12/-.

Plums, N.S.W.—Santa Rosa, 4/- to 7/-, large 8/- to 9/-; Burbanks, 4/- to 6/-. Supplies were very light, most arrivals being Santa Rosa.

Peaches, N.S.W.—6/- to 10/-, large special to 12/-, small from 4/- per half bush.

Towards the end of the week supplies became very light indeed, but are expected to become heavier after Christmas.

Passionfruit (N.S.W. and Qld.). — 5/- to 8/- per half bushel, inferior lower. 425 cases came from Qld. last week.

Papaws, Qld. — 8/- to 13/-, few higher per tropical case. 709 tropical cases came from Qld. last week.

Pineapples, Qld. and N.S.W. — Southern, 12/- to 16/- per tropical case; Bowen, 12/- to 18/-. 2,865 trop. cases came from Qld. last week.

Strawberries, N.S.W.—3/- to 15/- per dozen punnets.

Tomatoes, N.S.W.—Central North Coast, 4/- to 9/-, few higher per half case. Local, 3/- to 9/- per half bush.

Prices improved slightly during the week, but heavy supplies from Balranald in Victoria again caused them to ease. The Central North Coast of N.S.W. forwarded 15,852 half bushel cases.

Christmas and New Year Holidays: The markets will be closed on December 25, 26 and 27, and again on January 1 and 2.

QUEENSLAND.

Brisbane (20/12/38). — Messrs. Clark & Jesser report as follows: — We wish to advise of existing conditions of the Brisbane market. Since our last report to you, there has been a substantial increase in the values of both Apples and Oranges.

Ruling values at present are: — Apples: Yates and Demo., 15/- to 17/-. Pears: Broom Parks, 14/- to 15/-; Jos., 16/- to 17/-. Oranges: Vals., good commercial counts 12/- to 13/-, smaller fruit 9/- to 10/-. Lemons, 16/- to 17/-. Cooking Apples, 10/- to 12/-. Mangoes, 5/- to 7/-. Cherries, 7/- to 8/- per tray. Plums: Wilsons 4/- to 6/-, other varieties 3/- to 5/-. Peaches: Wiggins 5/- to 6/-. Apricots, 7/- to 8/-. Nectarines, 6/- to 7/-. Pineapples: Northern Roughs, 9/- to 10/-. Passionfruit, 4/- to 5/-. Tomatoes: Choice green, 9/- to 10/-, others 6/- to 7/-.

VICTORIA.

Melbourne (3/1/38). — Quotations (bushel case, unless stated):—Apples: Eating, 8/- to 12/-, few higher. Do., cooking, 5/- to 10/-, few higher. Apricots, 4/- to 6/-, few higher. Currants, red, 4/- to 5/- doz. punnets. Oranges: Vals., average standards, 5/- to 8/-; selected to 10/-; few specially selected, to 12/-, few higher. Lemons, average standards, 5/- to 6/-; good standards to 7/-; selected, 9/- to 12/-. Grapefruit, 6/- to 13/-, few specials higher. Strawberries 9/- to 12/-. Peaches, 4/- to 10/-, few specials higher. Papaws, Qld., 10/- to 14/- double case, few higher. Bananas, Qld., 6's, 10/- to 13/-; 7's, 13/- to 15/-; 8's and 9's, 17/- to 20/- double case, few specials higher. Pineapples, Qld., 12/- to 18/- double case, few specials higher. Passionfruit, 6/- to 12/- half-case.

WESTERN AUSTRALIA.

Perth (30/12/38).—Apples: Yates, dumps, plain, 2/-; fancy, 5/- to 10/-; ex. fancy, 10/6, flats 5/6 to 12/6; G. Smith, dumps, fancy, 5/- to 12/-; ex. fancy, 14/-. New season's flats, 4/- to 8/- large, to 9/6, others 3/-. Citrus: Oranges, Val. flats, 3/- to 8/-, dumps 5/- to 11/9 (special to 10/-); Lemons: flats, 4/- to 8/3 (others from 1/-). Stone:: Plums, Shiro, flats 2/6 to 7/6 (others from 1/-); Santa Rosa, flats, 9d. to 6/6; Wickson, flats, 2/-

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Murdoch Bros. Pty. Ltd., Market Place, Hobart, Tasmania.

Mr. W. Pitts (Overseas and Interstate Export Co.), 20 Market St., Sydney, New South Wales. (Sole Agent for:— New South Wales Queensland, South Australia.)

Cables: "Botanizing, London."

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Brisbane, B.12

BEST PRICES, PROMPT ADVICE AND REGULAR SETTLEMENT.
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SELECTED AGENTS FOR: Phones: Office B 6218. Residence J 3445. Established 1911.

Victoria: Harcourt Fruitgrowers' Progress Assn. Ltd.
Harcourt Fruit Supply Co. Ltd.
Victorian Central Citrus Assn. Ltd.

Tasmania: State Fruit Advisory Board.
New South Wales: Griffith Producers' Co-op. Co. Ltd.
Batlow Packing House Co-op. Soc. Ltd.

to 4/-; Climax, flats, 1/- to 5/-; Satsuma, flats, 2/6 to 7/6; Burbank, flats, 1/- to 4/6; Peaches, flats, 7/- to 10/- (special to 13/3, others from 3/-); Apricots, flats, 1/- to 6/- (special to 8/-); Nectarines, flats, 7/6 to 11/-. Other lines: Grapefruit, dumps, 10/-; special, dumps, 10/6. Pears, 4/6. Tomatoes, flats, 2/- to 10/- (others to 15/9). Passionfruit, three-quarter bushel, 5/- to 10/9; half, 4/-; quarter, 2/- to 5/-. Bananas: Carnarvon, 26/- to 32/-.

NEW ZEALAND.

Dunedin (15/12/38): Messrs. Reilly's Central Produce Mart Ltd., report as follows:—

Weather conditions have caused the market to be erratic, both as regards supplies and price. Both Strawberries and Cherries show the effect of the continued wet conditions. Supplies of Strawberries are still being received, principally from Outram, and both dessert and jam berries have firmed in price. At the beginning of the week Cherries brought high values, but later prices show a fairly considerable drop. Price for late varieties of Cherries, which are light in quantity, however, should be quite satisfactory.

Small lines of dessert Apples still continue to arrive, and meet with a good demand. Supplies of Tomatoes have increased, and values are lower.

Heavy consignments of Gooseberries are now coming to hand. Both Black and Red Currants are increasing in quantity.

The "Kaipara" brought forward a shipment of Jamaican Oranges, and also a small parcel of Grapefruit, and the "Port Auckland" is also due today with a further shipment of this fruit.

Bananas have a good enquiry. The "Maui Pomare" shipment of Niue and Samoan fruit arrived in good order, and met with a keen enquiry. A further small shipment of Samoans is due next week.

Lemons are in demand, supplies are scarce, and values are high.

We received the first consignment of local Grapes during the week, these being of very nice quality.

Prices (per case): Cal. Grapes: Almerias 30/-, Emperors 30/-, Cal, Grapefruit 35/-, N.Z. Lemons: Keribest 24/- to 26/-, others 20/- to 22/6; Oranges, Jamaicans 24/- to 27/-; Australian Vals., 17/- to 21/6; Bananas, ripes, 25/-; Apples: Del. 12/- to 16/-, Sturmers 10/- to 14/-, Tasmas 12/-, R.B, 10/- to 12/-, Canadian Del., 24/-; Pears: W.N., 12/- to 16/-.

POTATO SALES.

Radio Campaign in Sydney.

Following their efforts to assist in the disposal of Valencia Oranges, officials of the Housewives' Association in Sydney, have turned their attention to Potatoes.

A radio campaign is in progress whereby housewives are advised that 28 lbs. of medium-sized Potatoes will be delivered free for 3/-. The price outside a radius of 15 miles is 3/6.

Incidentally, the counter lunch ban in Sydney, operating from December 1, materially affected Potato merchants. Hotelkeepers previously were good customers for the small Potatoes, which they boiled and served as counter lunch. In this manner a large quantity of tubers not acceptable to housewives, was disposed of. On the other hand, the publicans' decision has benefited growers of Lettuce and Radishes.

EXPORT OF APPLES AND PEARS.

The firm of Clements & Marshall Pty. Ltd., Devonport, Tasmania, has considerably developed its export trade in Apples and Pears during latter years. This house has connections for handling consignments of Apples and Pears in practically all the markets of the world, including United Kingdom, Europe, India, Ceylon, Malaya, Nederlands Indies, and the East. In Great Britain they are represented by the old-established firm of T. J. Poupart Ltd., who have branches established at all the leading ports of Great Britain including London, Hull, Liverpool, Glasgow, Manchester and Southampton. An organisation with such ramifications as those detailed above is in a position to render excellent service to the Australian fruit industry by opening up markets and developing these to the mutual advantage of growers and exporters.

Most of the fruit handled by Clements & Marshall Pty. Ltd. is marketed under the "POPPY" brand, which has established a reputation for quality wherever it has been forwarded.

THE PORT OF LONDON.

Million Tons in a Week.

Some idea of the activity normally prevailing in the Port of London can be gathered from official figures just made available.

During the week ended November 25, 909 vessels, representing 1,006,431 net register tons, used the Port of London. Of these, 502 vessels (820,304 net register tons) were to and from Empire and foreign ports and 407 vessels (186,127 net register tons) were engaged in coastwise traffic.

The arrivals included nine meat cargoes, viz., three from Australia, one from New Zealand, four from South America and one from Iceland, comprising 340,000 carcasses of lamb and mutton, 148,000 quarters of beef, quantities of pork, rabbits and sundries.

Seventeen timber laden vessels docked in the Surrey Commercial and India and Millwall Docks with 20,000 tons of softwood.

WIRES AND NAILS.

Titan Company's Contribution.

To Orchardists and Farmers.

For fifty years the Titan Nail and Wire Pty. Ltd. has been contributing to the fruit industry in many ways. In 1888 the manufacture of barbed wire was commenced, but since that year other avenues of service to the farmer, orchardist, packing shed, builder and various other producers have been developed.

With a modern factory in South Melbourne, equipped with the latest machinery, covering over an acre in extent, the company now ranks as one of the best-equipped in this class of manufacture. With a capacity for turning out over 300 tons of nails and wire per month, Titan has become an integral part of the wide range of Victoria's leading industries.

In the nail section, all classes of nails, clouts, brads, etc., are manufactured. All nails are weighed by a patented mechanical device which ensures the correct weight before packing. A feature of the company's service is the "processing" of nails which ensures greater holding power and a considerable saving to fruit-packing companies, which use large quantities of nails every season. The holding power of Titan processed nails is up to 48 lbs., and 1 cwt. of these nails will make up to 2,453 cases. A variety of points and heads are made to suit various requirements for case making, this includes a special bifurcated point which prevents splitting of the wood.

Titan barbed wire is also well known and gives a maximum length to the cwt. coil. Various designs are made to meet all requirements and spacings of the barbs. In this, as with all Titan products, the wants of the man on the land have been studied and not only has efficiency been sought, but economy in outlay and labor have been provided for.

The company's address is 15-19 Lorimer-street, South Melbourne, S.C.5, and any enquiry, quotes or information are invited.

DESTRUCTIVE FIRES.

Packing Houses Suffer on M.I.A.

The Yenda Producers' Society Building, housing a packing shed, office and ice plant, was completely destroyed by fire on December 6. Damage is estimated at between £7,000 and £8,000, including £1,000 worth of fruit cases.

At Leeton on December 7 the buildings of the Leeton Producers' Co-operative Distributing Society were also destroyed by a fire that swept the whole place within a few minutes of its discovery. Damage amounted to thousands of pounds, and included £1,800 worth of bell tents used for fumigating trees, as well as large stocks of sugar and Almonds and hams and bacon. A large quantity of fruit, recently packed, was removed a few days before the fire.

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Poultry Notes

POULTRY IN SUMMER.

Some Points in Management.

EXCESSIVE HEAT causes the loss of thousands of birds every Summer, yet these can be prevented by proper attention to the requirements of the birds.

Proper feeding, and ample fresh and clean water are the first essentials. Someone should always be in charge of the poultry farm during heat waves. In the hottest part of the day a careful watch should be kept for birds prostrated by heat. At such times it is necessary to disturb any birds that may be lying down.

Those which are becoming affected will not move readily and will exhibit obvious signs of distress. Such birds should be removed and water should be applied freely to the head and under the wings; they should then be placed in a shady spot, and, preferably where there is a current of air, and the ground should be well watered to cool the birds as much as possible. The hens should not be allowed to pack into nest boxes, as they often do in an endeavour to find a cooler spot. Regular rounds of the pens should be made at frequent intervals as long as the temperature remains unduly high.

On no account should water be thrown into houses, as this only creates a humid atmosphere and makes matters worse, but there is no objection to wetting the ground under shade trees or in the shade of buildings where there is a free circulation of air. Where close attention is given during heat waves, not more than a few odd birds should die from the effects of the heat.

TOE-PECKING.

Simple Remedy for Habit.

A suggested method for preventing toepecking by chickens is to wash the feet, dab with iodine and allow to dry for a few minutes before applying a mixture of tablet or two of quinine worked into soft putty, carefully covering every scratch. Let this dry for a few minutes (although this is not important) and then put all affected chicks which have been treated into the same pen. They will each peck once, but they do not like the taste, and there will be no more trouble.

Putty does not melt in the sun or dissolve in water, and it is not heavy enough to worry the chicken. It heals the cracks rapidly. Keep a watch on the chickens, and if it comes off, apply again. Care should be taken not to leave the feet unprotected during the healing stage, as this provides a temptation to resume the habit.

IMPORTANCE OF GREEN FEED.

Poultry do better in every way if a portion of their daily ration is green feed or vegetable feed. They may have as much of this as they will eat. Hens will produce considerably more eggs if green feed is included in their diet. Experiments have proved that for the best results at least one-tenth of the food fed to fowls should be green.

The Pig Pen

DISEASED PIGS.

Queensland Precautions.

The Queensland Government has issued a new Order-in-Council prohibiting the introduction into the State of any swine from New South Wales and Victoria suspected of diseases, unless they are accompanied by a declaration on behalf of the owner, and a certificate of health signed by a Government veterinary surgeon or inspector of stock that they are free from disease and have not been in contract with pigs suffering from swine dysentery.

Contagious bovine abortion and contagious porcine abortion have been declared disease under the Queensland Diseases in Stock Acts.

FEEDING OF PIGS.

Skim and Butter Milk Valuable.

SKIM AND BUTTER MILK excel in supplementary value any other single feed for pigs. They are especially recommended for pigs just weaned, as they are palatable and digestible; they usually contain between 3 and 4 per cent. protein, which supplements well the proteins of farm grains. Skim milk and butter milk are also rich in essential mineral elements.

While these feeding stuffs are of equal value for pigs, precautions must be taken to see that the butter milk has not been diluted by the wash water. Both should be pasteurised or boiled in order to prevent the possibility of tuberculosis. Their high value is shown by the fact that roughly 100 lb. can be considered worth half as much as a bushel of Maize.

When these by-products are fed in small amounts they have a higher value per lb. than when they form a large proportion of the ration. Young pigs require larger proportions of milk to grain than do older pigs. It will be found that about one gallon of skim or butter milk per day will balance a Maize ration for pigs from weaning age to market weights. During the period of rapid growth (between 90 and 130 lb.) 1½ to 1¾ gallons may very profitably be utilised.

Whey has a value of approximately half that of skim milk or butter milk.

Apples As Medicine

Value Recognised by Medical Profession.

APPLES recently have come to be recognised as of specific value in the cure of intestinal disorders among both infants and adults. Medical literature in this country and in all parts of U.S.A. and Europe carries many publications on the use of Apples under clinical conditions.

The use of raw Apples in the treatment of dysentery among infants and young children was first reported by Drs. Heisler and Moro, physicians, in Germany in 1929. Moro reported that by feeding with ripe mellow Apples which had been finely grated, **as the sole article of diet for two days,** to 52 children of 1 to 10 years of age he successfully treated acute dyspepsia, dysentery, typhoid, chronic dyspepsia, and mucus enteritis. In the majority of children on the Apple diet, diarrhoea stopped immediately and on the first or second day stools were formed.

Good for Babies.

Other investigators have found the raw Apple diet **successful with infants of less than six months of age** and for disturbances of various types and origins, such as acute and sub-acute nutritional disorders, infectious enterides, nutritional disturbances of parental origin and manifestation of intestinal intoxication, there was equally good response to the treatment. The diet has also been used for adults.

A number of articles in medical journals in U.S.A. have reported on the use of the Apple treatment, and Dr. Bittner, of Yakima, has given an excellent summary of these as well as of his own wide experience in the clinical use of Apple.

He has shown that there is uniformity of findings with this treatment in that:—

(a) The exclusive use of raw ripe Apples brings an almost immediate symptomatic relief to infants ill with various types of bowel infections.

(b) The temperature drops within the first 24 hours.

(c) The number and consistency of the stools change abruptly at the onset of treatment.

(d) **At least 90 per cent. of the cases,** regardless of severity, are symtomatically well within 48 hours.

(e) There is difficulty experienced in returning some cases to milk diet, relapses occurring that require additional days of Apple treatment.

Dr. Bittner also reports that continued use of the Apple diet has proved **of value in chronic and acute rheumatic infections;** preoperative use of the Apple diet in a number of cases has resulted in complete absence of post-operative nausea and post-operative intestinal colic.

Why Apples Assist Cures.

THE mode of action of the Apple diet is not yet fully explained, though various theories have been propounded to account for the highly beneficial action. Dr. Moro suggested that the Apple pulp provided a filling for the intestine that was non-irritative, that the tannic acid was a factor and that the pulpy mass had an absorbent action in the intestine.

Others believe that the **pectins,** because of their great swelling capacity and buffering action, are the most important therapeutic factor; the **malic acid** may have a minor influence in increasing the bactericidal effects by increasing the acidification of the gastrc contents; the **mechanical bulk** of the cellulose also play a part; the almost complete absence of fat and protein while on the Apple diet is considered an important auxiliary factor.

Dr. Borovsky believes that the effect of the Apples probably results from their absorptive power and detoxifying action.

Dr. Bittner cites his own clinical experience, which would indicate that the Apple pulp acts by absorption of the toxic effects of bacteria in the intestine; the Apple pulp "removes the exotoxic products of bacterial growth, thereby relieving the system from the absorption of these products and allowing the blood stream defences to concentrate directly on the bacterial invasion."

Removing Bowel Poisons.

The Apple pulp not only absorbs products of bacterial invasion but can also absorb other poisons from the bowel. Manville believes that pectin is the important detoxifying substance because it can produce galac-

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APPLES AS MEDICINE—(Contd.).

turonic acid which he has shown to have the same action as has previously been recognised for glycuronic acid.

In Germany several workers have used "aplona," a dried Apple product and the successful use of Apple powder has been reported by a number of workers in this country. The Apple powder has the advantage of being available all the year round and easily handled and used.

Interesting Tests.

Dr. Bergeim and co-workers at the University of Illinois have recently shown that fruit eaten before a meal has a definite effect on the intestinal flora of the stomach and large intestine. The four subjects for this experiment took no food previously for 12 hours, then fruit was eaten and followed one hour later by 200 c.c. of fresh whole pasteurised milk containing a known number of bacillus prodigiosus. Eight hours later the contents of the colon were examined for the presence of B. prodigiosus. When milk without fruit was given, more than half of the bacteria were recovered from the colon, **but when pulp of one Apple was eaten preceding the milk, only one-tenth the number of bacteria were recovered, and when dried Apple was used none were recovered.**

The fruit pre-meal creates a gastric environment unfavorable to the survival of orally ingested bacteria. It is possible that this bactericidal action in the gastrointestinal tract results from the production of butyric acid and other lower fatty acids during the digestion of the fruit. Bergeim has shown that the concentration of butyric acid in the intestine is an important factor in reducing the number of B. coli which could survive in the intestine.

Vitamin C Content.

It has been suggested also that the Vitamin C content of the Apple may play some part in the detoxifying mechanism of the intestine. It is known that Vitamin C has an inhibitory effect on diphtheria toxin and probably on other products of pathogenic organisms; also, there is evidence that the amount of Vitamin C present in the blood is lowered, that is, more of the Vitamin is used up in the presence of certain infections.

The value of Apples in treatment of intestinal disorders has been proven by clinical investigations. It should also be recognised that **Apples may be used in the every-day diet** of the normal person to help in maintaining a healthy condition of the intestinal tract. The mode of action is not known; it may be through their content of Vitamin C, of pectin, or of other as yet unidentified constituents, but the beneficial results have been demonstrated.

The Council on Foods of the American Medical Association recently has accepted the Apple, and Apple powder, as a wholesome food for use in the management of diarrhoea of infancy and childhood.

The foregoing information was used by the Apple and Pear Council in its educational publicity campaign in 1938. During Health Week many doctors in the wireless talks and public addresses cordially recommended a largely increased use of Apples amongst the general public.

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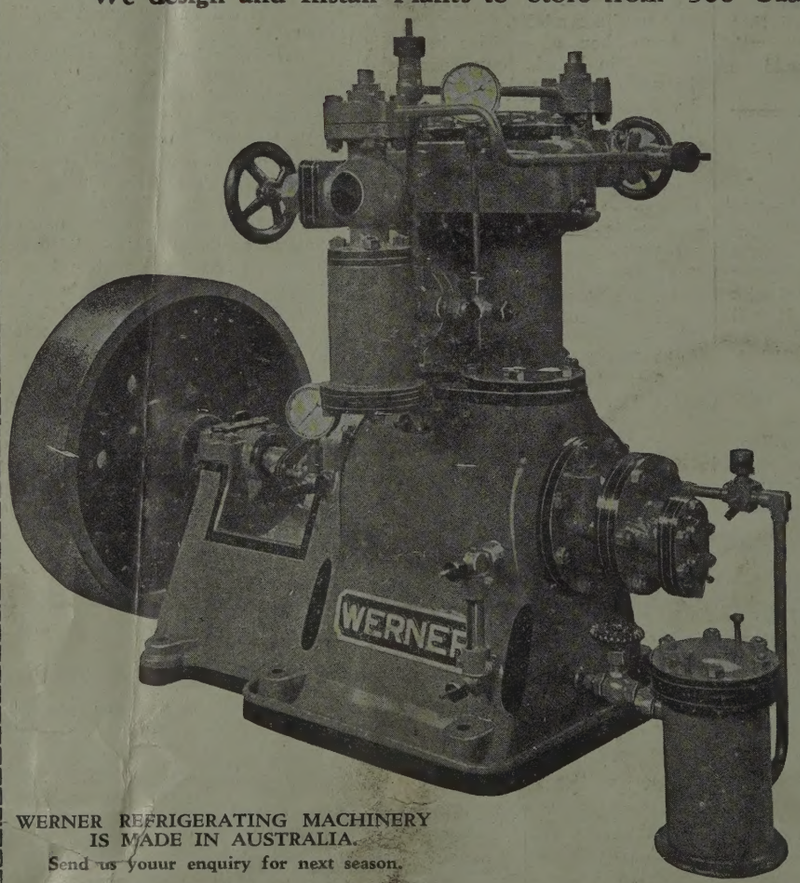

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GARDEN BEANS.

Interesting and Useful Publication.

A VERY INTERESTING and useful bulletin for market and home gardeners, "Varieties of Garden Beans in New South Wales," by Mr. N. S. Shirlow, Plant Breeder at Hawkesbury Agricultural College, has just been issued by the Department of Agriculture.

Reference is made to all the various herbaceous plants which are known as "Beans," but the object of the bulletin is chiefly to describe the varieties of French or Green Snap Beans grown in New South Wales.

The origin of the old variety Canadian Wonder is not known, but it was listed by American seedsmen in 1882 as Rose Bean. Peculiarly, however, the variety is not grown to any extent in America. The Bean known generally now in local circles as Brown Beauty is fast displacing Canadian Wonder and its derivative, Tweed Wonder, as a commercial variety in New South Wales. It is of interest to note that although an enterprising seedgrower in Victoria launched this variety in Australia a few years ago, Mr. Shirlow points out that it is identical with the variety Premier, of the well-known English seed firm, Sutton & Sons, which was introduced for trial by the New South Wales Department in 1930. This variety is also listed by some local seedsmen as Acme or President. Other varieties of Sutton's known locally by different names are The Prince (Stayley's Surprise), Early Giant (Staley's Major) and Satisfaction (New Discovery).

Mr. Shirlow also includes a description of his new variety, Hawkesbury Wonder, which is expected to make considerable headway commercially in Australia because of its earliness, productiveness, excellent quality and resistance to bacterial or "Halo" Blight and to anthracnose or Pod Spot.

The most important wax and pole or climbing varieties of Beans are also described, and a useful key for the ready identification of all local green and wax pod varieties of both bush and of climbing types is given.

The bulletin of 44 pages is well illustrated with typical pods and seeds of each variety, and it will be welcomed as a reference book by seedsmen, market and home gardeners alike.

FRUIT JUICES.

Methods of Clarification.

IN the August and September issues of the "Fruit World," there was published a report on fruit juices. Since the publication of this report, much additional information has become available, and influences the remarks appearing therein under the heading "Clarification."

The accumulated experience of workers in Europe, U.S.A., and in England is that the proper use of an enzyme, such as filtragol or pictinol, is essential to obtain a permanently clear juice. While there is abundant evidence to show that either of the above enzymes is effective, it is not easy to indicate that one is superior to the other.

It is therefore suggested that fruit juice manufacturers in Australia desirous of producing a clear juice should use one or other of the above enzymes. They are both used at the rate of approximately one pound to each hundred gallons of juice, and must be permitted to operate long enough for the enzyme to complete its action if sedimentation subsequent to bottling is to be avoided.

Printed by the Horticultural Press Pty. Ltd. for the Fruit World Pty. Ltd., 78a Victoria St., Melbourne. Phones: F 2656, F 2657; and at 439 Kent St., Sydney.